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I.—PHILOSOPHICAL TERMINOLOGY (I).¹

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PREFACE.

The theme for the Prize Essay runs as follows:—

“The causes of the present obscurity and confusion in psychological and philosophical terminology, and the directions in which we may hope for efficient practical remedy”.

In explanation of the theme was added:—

“The donor of the prize desires that general regard be had to the classification of the various modes in which a word or other sign may be said to possess ‘meaning,’ and to corresponding differences of method in the conveyance or interpretation of ‘meaning’. The committee of award will consider the practical utility of the work submitted to them as of primary importance.”

¹The Welby Prize of £50 was awarded to this admirable essay by Dr. Ferdinand Tönnies of Hamburg (Editor, G. F. S.).

The author of this essay has noted that both in the theme itself and in the explanatory note he is called upon to investigate anew the nature of signs in general and of words in particular. He considers himself all the more justified in this course that in former days several of the most influential philosophical authors, with the same object of removing the obscurity and confusion of terminology, considered it uniformly necessary, in the same way, to give a thorough account of the nature and origin of verbal meanings in general.

But the present author believes that by his determination and division of the concept "Will," more especially by distinguishing the forms of a social will, he provides a better basis for such an account.

The "practical utility" of this contribution he finds,—in addition to the fact that every deep inquiry into important problems may be considered useful,—in that it aims itself at promoting the end in question, *i.e.* unanimity concerning concepts and concerning the expressions devised to denote them. For with a view to this end he holds it to be indispensable to create or confirm for thinkers, especially for thinkers at the beginning of their career, a clear and strong consciousness of their *power* over their material, of their free disposal, not only of sounds and other signs for the *notification* of concepts, but also of ideas for the *formation* of concepts. Owing to the darkness and inadequacy of the concept which is usually connected with the word "will," this "opening of the door to choice" invariably leads to the absurd conclusion that *groundless*, *i.e.* irrational, *caprice* is to reign. As if in giving a man free disposal over a large *property*, I thereby intended to convey to him that he should waste his property or lay it out in a foolish manner. No doubt I give him the *right* to do so, but I give him *also* the right to the *wisest* disposal, division and determination of every part of it, and if I have any influence over his will I shall teach him to dispose of his means according to clearly conceived *ends*; and if I can further influence him in choosing his ends I shall teach him to aim at living as far as possible like a noble human being, and not to direct his efforts to sensuous enjoyment or idle honours. The freedom of the thinker must be understood in the same way. It must be assumed that his will is directed towards knowing *reality* in its nature and connexions, or it must be made clear to him that this is at least his *immediate end*. But if he is clear about this, then at once he has before him, instead of wild dissipation, a most difficult *task*: he has to dispose of the powerful means

of thought in the way which is most real, most useful and most appropriate; he has to form the *best* concepts, *i.e.* the concepts which conform most perfectly to that end; and he has to coin and connect with those concepts signs, which shall be the most useful, the most convenient and the most easily understood. Not every one, not the apprentice or the journeyman, will feel himself equal to so high an art, and Goethe's verse of the mason is peculiarly appropriate here:—

Wer soll Lehrling sein?—jedermann.
Wer soll Geselle sein?—der was kann.
Wer soll Meister sein?—der was *ersann*.¹

But all alike must know that they belong to a great alliance which runs through all nations, the *Republic of scholars*; and to work in and for this, to be recognised in it and to find in it a following and co-operation, has always been the highest aim of the master. There at once the individual will, at the height of its enjoyment of power and of its artist's pride, finds itself over against a more powerful *social* will which commands its respect, and which, forming itself in a council wherein the most distinguished masters have the greatest natural weight, and exercising its office of distinction and selection, determines with decisive sovereignty, what is to hold universally, what permanently, and what both universally and permanently.

How little progress we have made in the scientific knowledge of man—which is the essential business of all Psychology and Philosophy in the modern sense—we may estimate from the fact that we have attained to so extraordinarily little clearness and agreement concerning the objects and methods of these sciences. At any rate we shall allow, what we seldom act upon, that we must not philosophise in words alone, but that the word is a sign indifferent in itself, the value of which depends entirely upon its being appropriately formed and upon its serving to arouse the desired clear and distinct idea, or—in proper, that is abstract, thought—to recall the activity whereby we, or another, or all in common, formed a concept, and thereby to recall the content of the concept. Much less do we recognise the possibility and importance of free choice in the formation of concepts, or we tend to confuse it with the mere determining of the meaning of a word. And yet we have here the source of the mastery of the greatest problems.

¹ Who must be apprentice? every one. Who must be journeyman? he who can do something. Who must be master? he who has invented something.

Conceptual matter is the iron which we, as thinkers, have to forge. Many kinds of implements must be made thereof; for digging, for ploughing, for fighting, for forging itself. Scientific thought is not a matter of chance. It must be learned by hard work and practised in persistent endurance and eager striving; its rules and methods must be known. Natural capacity is called for, as for every other art; but even the most capable will go astray if he allows himself to be led by, or encouraged in, the fancy that philosophy must be characterised by lively intuition, fancy, and poetic diction, instead of by exact and strict thought.

But we think that an honest endeavour to find a deeper basis for these branches of knowledge, even though its success should not be recognised, deserves at least to be respected as good will, and we venture to appropriate the utterance of a famous predecessor: "The consideration then," says John Locke (*Essay on Human Understanding*, iv., 21, 4), "of ideas and words, as the great instruments of knowledge, makes no despicable part of their contemplation, who would take a view of human knowledge, in the whole extent of it. And perhaps, if they were distinctly weighed and duly considered, they would afford us another sort of logick and critick than what we have been hitherto acquainted with." And with reference to the utility of the treatise, again, we may say with him (*ibid.*, iii., 5, 16): "I shall imagine *I have done some service to truth, peace and learning*, if by any enlargement on this subject, I can make men reflect on their own use of language; and give them reason to suspect, that, since it is frequent for others it may also be possible for them, to have sometimes very good and approved words in their mouths and writings, with very uncertain, little or no signification. . . . And therefore, it is not unreasonable for them, to be wary herein to themselves, and not to be unwilling to have them examined by others."

I.

1. We call an object (A) the *sign* of another object (B), when the perception or recollection A has the recollection B for its regular and immediate consequence. By object we mean here everything which can enter into a perception or recollection, things therefore as well as events. Perception is all apprehension through sense; recollection includes, besides the reproduction of perceptions, the reproduction of all other sensations in so far as they have an object, or at any rate a content which can be regarded as object. Human recollec-

tion is also thought. Thought, as we understand it here, is itself for the main part recollection of signs, and by means of signs of other things which are denoted. In what follows the name "ideas" is occasionally used to include both perceptions and recollections, but may also include *feelings*.

Some signs are *natural signs*, *i.e.*, when the sequence to which they give rise is based upon the natural relation between sign (A) and object signified (B). Natural relations of this kind are manifold. They may be derived from an ideal case in which that sequence is self-evident; from the case of the *identity* of A and B, of the sign and the thing signified. This identity may (1) be present in the act of knowing of the perceiving subject; then B is in no sense another thing, and the proposition that A is the sign of B, tells us nothing else than that the perception or recollection of an object has the recollection of itself as a regular and immediate consequence. When said of the recollection it means only that it has a certain duration which may be regarded as a reproduction of itself; when said of the perception it is true in so far as perception cannot take place without recollection—a judgment of which we must here assume the correctness. But this reduces the proposition to the first alternative (that it is said of the recollection); but for a perceiving or thinking subject identity is indistinguishability. (2) The identity is *not* present in the act of knowing of the perceiving subject and is yet capable of becoming known through a process of thought. Such is—according to a philosophical doctrine which again must be assumed for the purpose of this conceptual division—the identity of the living *organism* with its (in the ordinary view "indwelling") soul; in other words the identity of organic "external" *movements* with the "internal" sensations and feelings expressed therein. For perception according to its concept, sensations and feelings (in future "sensations" will include both these) are not present as objects—they are not perceptible; on the other hand all bodily movements are perceptible, yet in reality most movements of the living organism are *not* perceived, only a few of those movements which are also called expressive movements, are uniformly objects of perception.

But if sensations and movements are thought of as identical, then it follows that the apprehension of these (external organic) movements is really also the apprehension of sensations, though it may be quite indefinite; and to this there corresponds the fact that there is sympathy between

organic beings, and that for sensuously perceptive subjects this sympathy takes place in one undivided act with sensuous perceptions (in "intuition"). In such cases—*e.g.*, when through the cry of the young sympathy with its hunger enters into the mother animal—we can say: the cry is the sign of the feeling of hunger which is identical with it; and if we divide that undivided act into the two: perception (of the sound, *i.e.*, of a movement) and sympathy (a sensation), then the invariable and immediate sequence is self-evident, *i.e.* it is explicable by the identity. But in proportion as the activities of knowledge separate themselves from the total mass of experiences, *i.e.*, of psychical facts, it becomes obvious that expressive movements *become signs* of the sensations (which are fundamentally identical with them), *i.e.*, according to our definition, the perception or recollection of such organic external movements has for invariable and immediate *consequence* sympathy, *i.e.*, recollection of a sensation.

2. But from sympathy arises subsequent feeling, and ultimately the *inference*, which is obtained discursively and therefore the more exposed to error. The inference from the expressive movement to the "will" remains nearer to intuition in proportion as the two are unambiguously connected with each other, and that is more emphatically the case the less a specifically human "rational" will is present or developed, so that what may be objectively comprehended as sign may be forthwith actually and subjectively received as the thing itself by the recipient (person understanding), or at least as a combination of *both* the thing and its sign. So the despot receives and understands prostration *both* as the actual submission demanded *and* as its sign. In this and similar cases we may see how the sign arises *out of the thing itself*, or at any rate separates itself from it, *i.e.*, the *mere sign* which is no longer *also* the thing itself, although its connexion with the thing itself was originally the chief element in it. The slaying of the victim is originally intended quite straightforwardly as nourishment for the departed spirits, while at the same time it is meant as a sign to them of the mindfulness, fear and piety of their relations. Gradually it becomes a mere sign of these feelings, even for those who make sacrifice; the end becomes means and the means becomes more and more independent of the end, *i.e.*, more and more *distinct* from it.

3. Thus it is that, in general, organic external movement becomes for perceiving subjects the sign of sensation and feeling. And since natural thought is metaphorical, that

is, translates the unperceivable into sensuous pictures, this is also expressed by calling it the external sign of the inner, as if the soul were spatially present in the body, and both therefore parts of a *perceivable* whole. And so this case, which is immediately appropriate to the concept, is reduced by language (which expresses natural thought) to a more remote one derived from identity.

4. The *next* case which can be measured by Identity is the sensuously perceptible *Similarity* of one thing to another, which in its perfection is called *complete likeness*. Thus a portrait is a sign of the original, and is more so—*i.e.*, has the recollection of the original more immediately and invariably as consequence—in proportion as it is more similar, or approaches more nearly to complete likeness. But even the shadow is by its similarity a natural sign of an object, and in the same way the print of the foot, etc.

5. That the part is the natural sign of the whole, can be derived from the case of Identity from another point of view. For it is the nature of recollection to pass from part to whole. This rests ultimately upon the laws of custom and habituation, which again regarded from a material point of view are special cases of “the least expenditure of energy,” but arise psychologically from the impulse to self-preservation (the will to live); the more deeply and closely a perception or recollection is connected with this impulse, the more easily, rapidly and frequently is it reproduced, and the more will it be the case that perceptions of the parts of a whole will suffice to excite the idea of the whole as present. On the other hand, this completion becomes more difficult, takes therefore more the form of an inference, in proportion as the part is more trivial or less characteristic in comparison with the whole.

6. In the same way the part is natural sign of another part, especially of one adjacent in space or in time; hence every antecedent may become the sign of a consequent, and *vice versa*; something external the sign of something internal, etc.,

That is a sign which acts as a sign.

Here there is as much variety as in the facts of the association of ideas in general, which are admittedly reducible to a few fundamental rules. It is rightly taught—though not yet in a definite form—that even for the process of simple cognition, especially for the spatial ordering of sensations as perceptions, one becomes “sign” for the other, that act of memory becoming possible for us through the transition—unconscious inferences—from the more known to the less

known which we know as orientation. But further, all the higher kinds of cognition also attach themselves as comparisons—identification, distinction, inference—to characteristics which lead to reflexion, to expectation, and to certainty. The *judgment* is grounded upon signs.

7. Natural signs appear either in that course of nature which is independent of human will, or they are "made," "given," "formed" by men, and these latter again are either (as such, *i.e.*, as signs) made involuntarily or with the *purpose* of "denoting" something, they are to denote something. A made sign is either intended to serve the person himself who made it for his future recollection, or it is to serve others for their present or future recollection.

8. All human expressive movements are, or become, *involuntary* signs of the psychical states expressed in them. These signs vary between the limits of that which takes place contrary to our will or wish (*e.g.*, blushing, growing pale) and involuntarily (the so-called reflex movements, *e.g.*, starting, wrinkling the brow)—hence the signs which "betray" us—and these belong entirely to the independent course of nature; and at the other extreme that which is involuntary as sign, but nevertheless is done with the assent of the subject, *e.g.*, the cry of joy and springing to embrace when lovers meet.

9. To make expressive signs is, or becomes, necessary for any one who desires to *impart* his sensations and feelings, especially the wish that another being should do or omit to do something. Signs which are made for this purpose may even be understood by many animals; to them belong more especially tones and gestures, but also action which affects the general sense-organ of the skin either pleasantly or unpleasantly.

10. The *use* of signs of different kinds, which is so infinitely important for the whole cultured life of humanity, depends principally upon made signs. Sensation in common, thought and belief in common, make themselves known in the *use* of signs, even when these have no other *purpose* than to afford *expression* to just this feeling and fellow-feeling, to be "symbols" of the community.

11. But most signs of this kind serve also for mutual understanding, and are easily understood in proportion as they are natural signs of the will which "utters itself," or "reveals itself" through them. Here then action upon the sight (gesture-language) is capable of much greater variety than action upon general sensation, while action upon the hearing again (sound-language) surpasses this in

much higher degree owing to the plasticity of the material in which the signs can be, as it were, coined. It is true that at first the development of gesture-language is the easier, just because it deals with a greater number of natural signs; hence in the earlier phases of human development it is only supplemented by sound-language; a relation which afterwards reverses itself, until finally the sound-language as fixed in writing acts by itself alone and lacks even the explanation which the speaker gives to his words by the modulation of his voice. The progress from sensuous and particular to conceptual and universal communications develops itself in general in the same relation.

12. For out of articulate sounds arise almost exclusively the completely different genus of signs, which we oppose to *natural* signs as being *artificial* signs. Here there is no longer any natural relation or bond between the sign and that which it signifies; it is the human will alone which produces the relation of ideal association through which the word becomes sign of the thing, as also the relation through which writing becomes sign of the word, and the letter-unit becomes sign of the sound-unit. But the separation of *artificial* from *natural* signs is a process which moves gradually and in imperceptible transitions; the memory has to accustom itself to signs which are more and more unnatural, therefore more inconvenient; and which nevertheless are for human purposes facilitations, because the *natural* signs do not suffice, or would cost a far greater expenditure of trouble to be sufficiently elaborated. The *natural* signs upon which linguistic sounds are based are sometimes involuntary expressive movements of the vocal organs; sometimes imitations, *i.e.*, copies, of heard and familiar sounds; and finally, sometimes they are attempts, formed according to the principles of analogy and contrast, to reproduce the impressions of objects, which have then, favoured by relatively fortuitous circumstances, maintained themselves, *i.e.*, have entered into a more or less firm connexion with the ideas (perceptions or recollections) of the objects.

13. A certain word has a certain meaning, *i.e.*, it is sign of a certain (perceivable or thinkable) object, according to the will of one or more persons. When it is according to the will of *one* person, then either he alone understands the sign, and then it is a private sign; or it is understood by others also, and then it is a social sign. Here again it is a question of transitions. Understanding is itself a kind of willing, it is the will of recognition, of acceptance, *i.e.*, of appropriation, and thus understanding in common is like

possession in common. Thus by understanding a social will issues from the individual will. But the less social validity a word has, the more *effort* it needs for the individual to make himself understood; he then strengthens by natural signs—tones and gestures—the meaning which he desires to give to the word.

14. But words are *essentially* and according to the law of their development *social signs*; and the social *will* which expresses itself in them, which settles and gives to them their meaning, is—like all social will—of various kinds.

15. Here we must first of all indicate the profound difference between the social will which has formed itself in a natural way, and that which is made consciously. From this difference arises the fundamental difference of the sense in which a word means anything. But before we can consider this in detail a general exposition must precede.

16. In every case the meaning is a kind of equation; a word is equal to one or more other words by which it is explained, and is thus mediately or immediately equal to the object of a perception or recollection. But these equations are *not* generally thought of as something willed, but as something actual, which therefore we know or do not know, and concerning which we can have a right or wrong opinion; we know or do not know what a word means, *i.e.*, for what it *is* the sign, or what a thing is “called,” *i.e.*, by what word it is denoted. The question from what *cause* a thing is called so and so, is at first as remote from us as the question from what cause a thing is green or blue.

17. In every circle of human beings, that which all know (or at any rate may learn), that therefore to which all feel themselves *bound*, is held to be so real (*i.e.*, like the natural), the connexion between name and thing becomes so firm, that it is felt and thought of as necessary. The name is held to belong to the thing, and to have a mystic connexion with it like that of a picture or a shadow. This is especially the case with the names of persons, giving rise to the fear that knowledge of the name gives power over body and soul, and hence to anxiety to conceal proper names and avoidance of uttering the names of the dead lest their rest should be disturbed, and much allied superstition. Even in philosophy it is not easy to overcome the view that certain names belong to things by nature ($\phi\imath\sigma\epsilon\iota$), and the Christian thinkers laid it down that Adam assigned the *right* name to things; even in the beginning of this century the doctrine that all languages are to be derived from Hebrew was again received. Nay, there are still famous authors to-day who regard the posses-

sion of language, that is of an elaborated system of sound-signs, as an absolute cleft between man and the lower animals; a theory which needs for its completion only the other theory that a new absolute cleft has been opened between men who possess the sign-system of writing in letters and those who do not possess it, so that the former cannot be descended from the latter.

18. Now we know that there are different human "languages," by which we mean the total systems of sound-signs which are understood and used in a certain group of men, in a nation or in related nations. The fact that within such a group smaller groups are again distinguished, chiefly with reference to the sound-forms or "pronunciations" of the same words, but partly also through a certain number of deviating peculiar word-signs, is expressed by saying that within a language we find various "ways of speaking" or "dialects". As a matter of fact there are in every larger or smaller group of men, who live together and have common experiences, particular words which are regularly used, and are often so considerable and striking that we speak again of a particular "language"—student's language, sailor's language, "thieves Latin," etc. Not seldom, again, there is in the narrowest and smallest groups, as between married people or brothers and sisters, a private language, *i.e.*, numerous names of things which they alone understand or use, and which they, or one of them, have invented; such a name may be an arbitrary and otherwise meaningless sound, or a sound which in other connexions means something else, or a sound attached to one which is thus familiar.

19. It is true that for mutual *understanding* a common idea-system is as necessary as a common sign-system; nay, more so, for if the ideas are there the signs are more easily and quickly gained, and therefore also substituted; while the knowledge of signs is worthless without knowledge of the ideas to which they are to be referred, and this knowledge is much more difficult to gain or replace, especially when we are no longer dealing with perceptible, but only with thinkable objects. Hence the fact that two men speak the same language is no guarantee for their understanding each other to any great extent. The question here is not only of capacity for perceptions (we speak in vain of colour to the blind), ideas and abstractions, but also of the whole range of specific technical and scientific "concepts," the names of which help us nothing unless we are familiar with the objects. Finally, for an intimate understanding we need,

especially when we are dealing with merely subjective feelings and experiences, a positive ("good") *will* to understand, hence an active *sympathy*, in so far as this is not replaced by *interests*, *i.e.*, by the thought for which the understanding is means to another end. In every case the understanding of another's meaning is, as reproduction, a kind of constructive effort, which is more or less successful, and the success of which is made more probable by attention and practice, but also by the knowledge of rules according to which we may infer the real meaning of the speaker who wishes to impart it, partly from the phenomenon (the sign used) and partly from the accompanying phenomena (*e.g.*, of emphasis). It may be that a stammering or babbling will suffice for the understanding of one, which is incomprehensible to all others; or there may be needed a long apprenticeship, and—even for learned men—the unfolding of a thought in many complicated sentences.

20. Thus not only mutual, but even one-sided, understanding presupposes a similar knowledge of ideas and signs on both sides. Signs are themselves ideas, and their connexion with the ideas signified is that which must be forthcoming to make an understanding possible. When other than natural signs are to be understood this connexion can only be gained by *learning*, *i.e.*, by increasing and confirmatory experience, which may be obtained chiefly for oneself or chiefly by the help of others. In every case the development of those associations of ideas which are known as habitual and involve a knowledge (though it may remain latent), is conditioned by our own practice and the habit which grows with it. But the habitual and familiar is felt and thought as natural, hence it is not easy for the naïve spirit to raise the question *why* the object has this name or the word this meaning, or the question is answered like similar questions as to the origin of modes of action, customs, etc., by reference to common agreement and to tradition from our ancestors. The power of the fact, when regarded as actual and natural, is indeed weakened in that there are many languages, and that it is only *in* this language of *ours* that the fact is so—for this leads us to regard the meaning or name as fortuitous instead of as necessary, to think of it as fixed by human will and therefore capable of change (*vóμος*) instead of as natural and immutable (*φύσει*). But the particular "language" appears as a natural or supernatural kind of being, it has a "spirit," we make use of it as of a living instrument. We use it as a whole, and it presents itself as a whole because through it (*if* we will to use it) the particular words are held together in

a logical non-arbitrary manner, and are therefore prescribed or offered to us in such a way that we *must* use them ; hence too there are "rules" for their combination which must not be "transgressed," if we are not to be guilty of a wrong, awkward, incomprehensible, or at any rate clumsy, form of speech.

21. The spirit of language is one of the forms in which we recognise what we define as the *social will*. To recognise the nature of the social will is necessary in order to analyse the different senses in which it can be said of words or other social signs that they have a "meaning". It is for this reason that we have premised the distinction between social will which has formed itself in a natural way, and that which is made consciously, we might almost say, arbitrarily. By social will in general we mean the will which is valid for a number of men, *i.e.*, which determines their individual wills in the same sense, in so far as they themselves are thought of as subjects (originators or sustainers) of this will which is common to them and binds them together.

22. By individual human will we mean here every existing combination of ideas (thoughts and feelings) which, working independently, acts in such a way as to facilitate and hasten, or hinder and check, other (similar) combinations of ideas (makes them probable or improbable).

23. In this sense human will may be thought of as the cause of human activities or conscious omissions ; for activities and conscious omissions are, from a psychological point of view, nothing but successions of ideas.

24. In these causal combinations of ideas the relatively constant elements are the feelings (affirmation or negation), and the relatively variable elements are the thoughts. The relation of the latter to the former must therefore constitute the principle of division and of classification. Upon this principle is based the dichotomy of the individual as of the social will. The will in which the feelings predominate we call natural, that in which thoughts predominate artificial. That is to say : in the one case the relation to the activities (to put it briefly) in which will in general "utters" or "realises" itself precedes more as a feeling—this may also be expressed by saying it is felt as an objectively present tendency,—in the other case it precedes more as a thought. As a feeling it is by nature indefinite and develops itself from general to particular relations. As thought, it starts from particular determinations and passes over into more general ones combined from them. From this antithesis we get the following characteristics. In the former—the feeling will—

the ultimate end rules ; *i.e.*, the idea of a general good directs feelings and thoughts to the particular good ; in the latter—the thinking will—the idea of a particular good (the object) guides all other ideas and subordinates them to itself. In the former—to point out a still more definite contrast—his task, his vocation, “becomes” manifest (or has become manifest) to the man, “I ought to do this” ; in the latter he “makes” (or has made) his plan, “I must do this”. Finally, to have recourse to current scientific conceptions, in the former the unconscious predominates in the will, in the latter the conscious.

25. There is a further classification of the forms of will which crosses this division, and is guided by that relation to activities which is common to both types. According as the sensuous element (sensations, perceptions), or the intellectual element (ideas, thoughts) preponderates therein, *i.e.* in the corresponding succession of ideas, there arise in each instance two chief forms, one of the beginning and one of the end ; but between these we place the large mass in which the elements in question appear to be so mingled as to stand in a relative equilibrium.

26. There arise then six classes of forms of will, each of which, however, can be analysed again into subdivisions. We will indicate them here by letters :—

W F s	W F s i	W F i
W T s	W T s i	W T i

How far these conceptually constructed forms are really forthcoming, or coincide with such as are really forthcoming, is not the question here ; nor, therefore, whether it is possible to denote them by words which are otherwise in use.

27. An object (A) becomes by an individual—*e.g.*, my—will, sign of another object (B) ; this is, in order to represent the contrast with natural signs, the next problem. Reduced to the simplest and natural expression it runs : when I perceive A—although it stands in no natural connexion with B—I will think of B. But this “I will” may refer (in German literally) both to the present and to the future ; it may imply a recollection which is to occur once or occasionally, or again one which is to be uniformly repeated. The recollection itself is bound essentially either to the perception or only to the idea, hence is of a more sensuous or a more intellectual type. But the will which forms the association, or is present in it, is here divided according to our scheme into its forms. On the one side stand two “events,” which are connected with each other by the “feeling-tone” of the one, or of both,

or of a third. The hopeful, courageous man, who *e.g.* goes out to battle, easily "accepts" any casual occurrence as a "good sign" for himself (*accipio omen*),—the idea of victory so excites him as to assimilate to itself every other idea; that idea combined with the wish *is* here the will. But the connexion between sign and signified is here only loose and superficial, it comes into existence and passes away again easily with the sensuous perception of the sign. A more permanent connexion is made by a permanent wish, an "interest"; there is always as basis the "wish" for favourable events, hence for favourable signs; delight in the former transfers itself to the latter, and for this reason recollection is as pleased to "linger" over them as perception. It is thus that the practical man who is dependent upon accidents, *e.g.*, a farmer or a sailor, *accustoms himself* to make many kinds of observations and to connect them with the particular stages of his work in such a way that the recurring perception invariably is for him a favourable or unfavourable sign. It is of such habits of thought that the whole mass of traditional superstition is composed. Finally we may be incited by just such motives of will to actually *learn*, whether from others or from our own experience and reflexion, to "give a meaning" to events, *e.g.* to dreams, which stand in no natural relation with future events but can be *brought* into arbitrary connexion with our opinion about them. Here the recollection itself becomes of a markedly intellectual kind; *e.g.* the "conviction" arrived at by private thought that a dream of fat cows signifies fortunate years. In all these cases what we think of is only how something becomes for an individual through his will the sign of something else. In reality such signs generally have also, or obtain, a social significance preceding or through the individual significance. But this social significance is only necessary when signs become the objects of social use.

On the other hand we notice, that the wish for a given recollection constitutes of this an End and of something else, which is first connected with the idea of it, a Means, *i.e.* an assumed cause of the recollection. The desire may select for this purpose the natural sign, or a socially valid sign, or finally—and this alone concerns us here—it may connect with the idea a sign which is significant for it alone. The form of the will may be sufficiently illustrated for our present purpose by instances. 1. I *make* for myself a sign to be used once or upon occasion—*e.g.* a knot in my handkerchief, to remind me to-morrow of a letter to be written; marks in a book, to remind me at the next reading of my pleasure or

displeasure. 2. I place as permanent memorial (*e.g.*) a stone in my field to remind me that in this place I received important news. 3. I invent a sign, in order that I may recognise something by it, *i.e.* to remind me that an object stands in a certain relation to me, *e.g.*, is my property. It is thus that I "mark" my animal in the herd; the essential point of my act is the intellectual certainty that I can at any time select it out of the herd as mine. Here the individual significance of the sign easily passes over into an exclusive one, *i.e.* into a "secret" one. The sign is to be either comprehensible for me alone or perceptible for me alone.

28. To show now how the *social will* variously presents itself in an analogous way, we will start from the most marked and principal types of its two genera, the concepts of which coincide almost completely with verbally recognised social forces. But at the same time we must make the application to valid meanings of words which are created by such forces.

29. The type of the former category is *custom*, of the latter *law*, in the sense in which we think of it as proceeding from deliberations and conclusions of an individual or of an assembly ("statute"-law).

30. The essence of custom lies in actual practice; it corresponds psychologically to what is known in the individual as habit, and it is also called expressly *Volksgewohnheit* (habit of the people). As will, it is most simply recognisable in the general ill-will, often indeed anger or horror, which is excited by its violation; but also in the forms of speech which proceed from general thought, such as: custom commands, custom demands, custom is strict and inexorable, etc.

31. In languages this view of custom is combined with that of a merely objective activity, of habit as mere usage, *i.e.*, regular usage. But any one knowing the "spirit" of his language will easily note, as by some inward accent, whether custom is being spoken of *in the one sense* or *in the other*; just as we can distinguish also an *individual* application of the word from the social, though in German this is characterised by the plural form and by the fact that it corresponds only to the second and objective application of the social concept (*ein Mensch von lockeren Sitten*).

32. Synonyms of the word in its social sense are, in German, *das Herkommen* (tradition), *der Brauch* (usage); the former expression indicates the foundation of custom through the usage of preceding generations, and the constraining power of that which our fathers have done and

held to be good ; the latter (*der Brauch*) refers more to living practice.

33. The German language forms for the concept of custom in its application to the meanings of words, the special word *Sprachgebrauch*. In it we are thinking less of tradition than of actual usage, though of course it is also conditioned to a large extent by the former and this is sometimes emphasised by the expression *herkömmlicher Sprachgebrauch* (traditional use of language). That the use of language, like other customs, has also a subjective side is obvious with so psychical an act as that of speech ; and yet the object is so far intellectual that deviations and errors ought not to excite ill-will. Still, in every linguist there is another kind of dissatisfaction, or at any rate dissent, which makes itself felt, often only as at something ludicrous, and in less marked cases simply as the judgment which denies something as false, and as the wish to correct. But that the actual usage, by which the individual is guided, and which every one recognises as "decisive" for the meaning of words, is based upon something like a general and consentaneous *will*, may be seen again from the fact that we are accustomed to speak of language as a "property," a "national inheritance," a "sacred possession," attacks upon which have often led and still lead to hot combats of speech and weapons. "We will speak our language" : what does that mean if not "we will use these signs with these meanings"? The willing of the usage *involves* the willing of the meanings, and that these are not thought of as included in the will is due to grounds already indicated. *Will* is not recognised in habit (though in language we may find traces of this recognition, which is lacking to Psychology). Think of the Greek word $\epsilon\theta\epsilon\lambda\omega$, where the identity is directly indicated, and the corresponding German *pflegen*, where it is indirectly indicated), though it declares itself strongly enough, especially as resistance. There is always dimly before us the argument (true enough in itself) "if this were taking place by my (our) will, then my (our) will could at any moment change or annul it". What is not true is only the tacit assumption that the (individual or social) will is something which can *come into being* at any moment without sufficient cause. The real fact is, that the more deeply rooted a habit is, the more improbable and difficult is its counteraction by our own or another will.

34. It is through *Volksgewohnheit*, or custom, that the social forms arise and grow which touch the *life* of the individual most profoundly, and which we call "law" (*G. Recht*) ; legislation brings consistency into these manifold forms, and

makes law consciously and in accordance with a plan. The former, the law of custom, appears partly in facts, proverbs, or rules handed down by word of mouth or in writing; partly in the practice of judges, in judicial custom, *i.e.*, in judgments which are passed invariably, or only once, in a given typical case. The latter, legislation—*i.e.*, the social force which is capable of carrying out its will,—attempts to think of all possible cases beforehand, and after consideration of their appropriateness for definite ends, to establish rules according to which judgments and sentences must be passed.

35. In its great variety and numerous contradictions customary law frequently leaves the “spheres of right” of persons confused, crossing one another, and having common elements which are difficult to deal with; legislative law, on the other hand, endeavours to draw sharp divisions and limits between the particular spheres, to leave nothing in common which is not derived, or at any rate derivable, from individual property or right. Legislative law, when moving freely on its own lines, is as far as possible *rational*. In so far as customary law is contained in propositions or judgments its language follows general usage, and shares therefore in the indefiniteness and uncertainty of usage.

36. Customary law always involves a certain usage of language, in which it makes itself explicit. It is the affair of the judicial judgment to know whether a thing is so and so, *i.e.*, whether a certain *name* belongs to it, *e.g.*, the name “wine” to a drink, the name “poison” to an addition to it. It is ascertained whether the thing has the qualities which customary language intends to denote by the name, which it takes to be its characteristics.

37. Legislation must concern itself directly with the determination of the meanings of words. In the penal code not everything which is called deception or theft by the people and in ordinary use, is recognised as a crime of this type and threatened with penalties; what happens is that *definitions* of these concepts are laid down, and prescribed as standards of meaning. Modern socio-political legislation and the regulations depending upon it, cannot avoid stamping as concepts expressions of daily life such as workshop, labourer, manual worker; *i.e.*, it gives them fixed and easily recognised limits, and indeed different laws, different regulations, determine these limits in different ways, and it is then said (*e.g.*) “manual worker in the sense of *this* law means . . . , a labourer in the sense of *this* regulation,” etc.

38. But just as to a large extent laws merely fix, extend or limit, and more especially make consistent the norms of customary law, so also legal determinations treat the meanings of words. On the other hand this often occurs without any respect to customary usage, even in opposition to it. New concepts are formed, and for them new words are created or new meanings given to old ones. The legislator disposes freely of the material of language, but always holds it expedient to respect customary usage, by which indeed he often remains bound, even when he no longer feels himself to be so.

39. With exception of the indirect cases we have mentioned, there is not really any *legislation for language*, as opposed to the customary usage of language, which to so large an extent contains the great mass of social will referring to the meanings of words that we may almost always call it simply language. Nevertheless we find an important analogue in the activity of grammarians and lexicographers, when provided with social authority by the state, or able to earn it by personal prestige, the former case being nearer to legislation. Typical of this is the French Academy, the dictionary of which has undertaken with so much success to unify and purify the language; a satirist has called the hypercritical founders, "souverains arbitres des mots". A much weaker analogy is afforded by the influence of authors who are accepted as models; and we shall revert to this analogy in another place.

40. Like these authorities, and often in direct contact with legislation, *science* also handles and influences language. It is legislative for the meanings of the words, which it takes from customary language for its own ends and defines—*i.e.*, fixes the meanings as they are to be. Nor is the formation of new words strange to it—words which do not occur at all in customary language, which it calls into life while fixing their meaning, either by inventing them, or more usually by borrowing them from a foreign language. The meanings themselves, again, it may express either by similar artificial words (*Kunstwörter*), or by natural words to which it has left their ordinary meaning or given a new one. But it first exerts its complete sovereignty when it makes its own objects; *i.e.*, when independently of what is already presented and thought of, it constructs objects and assigns to them old or new names. Its terms then gain a particular significance. *E.g.*, the word "circle" (*Kreis*) has in customary language manifold other meanings, by legislation the word in German becomes the name of an artificially bounded

administrative district, in science it (and in every civilised language a corresponding word) signifies the *concept* of a thing which is completely possible in no experience, of a closed line, of which every point is equally distant from a central point; and here again the terms line and point have just such a specific, scientific significance. This again we sometimes call a scientific "way of speaking" (*Sprachgebrauch*) —in our customary language. But here we are distinguishing and defining, and take therefore no account of customary language; thus affording, ourselves, an instance of scientific freedom in forming and classifying concepts; a freedom limited only by criticism of its conduciveness to the end in view. (It is in this way that we expect to justify our ideas in the course of the treatise.)

41. But if we investigate social habit, usage, more closely, we find that something of the kind always arises where the living together of men rests upon the bases most natural to it. Just as the habits of individuals develop most easily and frequently from original and strong *inclinations* (tastes, needs), so also social habits develop from mutual and common inclination. All inclination reveals itself, and still more completes itself, in activity, for it is the beginning of such activity. From the strength and frequent renewal of the inclination follows a frequent renewal of the corresponding activity; subjectively this becomes a habit, when the inclination becomes strengthened or even exclusively conditioned through its frequency, since the repeated action may also proceed from less voluntary sources. Habit is always a *disposition* to certain activities distinct from inclination, and more binding and regulative. The freedom of the will is determined by it in a particular way, it is felt as constraining, even as compelling; "man" is the "slave" of his habits, and yet they are essentially only more fixed forms of impulses which are fluid, but not on that account less necessary and constraining. Just so usage acts in social life and is related to the social instinct, or whatever we may call the elementary constraining force, which is also regulative for the meaning of *signs*.

42. The understanding of *natural signs*, e.g., of gestures and cries, is conditioned by similarity of organs, and facilitated by social feelings and habitual living together; and where these advantages are present artificial signs differ from them hardly at all. Where the impulse to help—whether reciprocal or not—is strong, there the attempt to indicate a certain danger by a sound (even when the sound is no longer, or not primarily, imitative or expressive) is

quickly understood, comes easily into circulation, is taken up and accepted. Since mutual imitation is the expression of unanimity, this, *the natural harmony of minds*, may be regarded as the first cause of a current meaning of words, as of other signs. In every nursery, in the bosom of every happy family, we may see how new names for men and things are invented and understood, how they are taken up and repeated from delight in them or in their inventor—*e.g.*, the child who imitates the sound. It is similar when, in larger communities of language, orators and authors introduce new and special words, or new meanings for old words; through the fact that they please, or through the impressiveness and influence of the inventor, they become current for a time at least, *i.e.*, they are imitated, repeated. And with respect also to the *origin of language* we must suppose that these springs of free invention, of attempts at introduction and at temporary validity, flowed freely when once the organs were accustomed to form a variety of sounds. What then maintains itself in permanent use and is handed down to younger generations, is obtained by *selections* from this wealth of original word-germs; selections which are themselves being constantly renewed. The psychological causes of those luxuriantly abounding germs in which words are created together with their sensuously felt meaning, we may denote as speech-feeling, or speech-instinct, or better as the impulse to the formation of speech; and this we may then show to be the basis of customary language. It is well-known that just the crudest languages are burdened with a superfluity of synonyms, and also that in them dialects generally vary according to the smallest local districts.

43. Language, like other systems of signs such as writing, notes, signals, is handed on by *teaching*. With reference to one's native language, it is true that the teaching is generally mingled with custom and given in imperceptibly small doses, which act all the more strongly from their continuity. But it is always the *authority* of the teacher which communicates as a fact that the thing is called so and so, that the word and the sentence (as unity of several words) *have* such a meaning. This statement must be met, not only by the desire and ability to understand, to impress it upon the memory and to show oneself as imitative, but also by the *belief* of the learner. But everything is easily believed which finds no psychological hindrances in opposed knowledge, in personal mistrust, or in dislike of the subject. Belief is acceptance and confirmation, as it were endorsement

by signature, and therefore an action of will; and since the teacher has also received with belief that which he hands on, we may claim common belief also as one of the forms of the social will which give to words as to other signs their meaning.

44. But this is noticeable in a marked manner when we are dealing with special signs and special words to which belief, or allied forms of a feeling will, such as reverence or inspiration, lend a special and heightened meaning. To a large extent this occurs with ceremonies and the mystical words connected with them, which are held to be sacred and to act in a supernatural manner. Words of which the true meaning is not understood, *e.g.*, when they are taken from a foreign language, thus get the significance of containing a power which far surpasses the power of ordinary words in arousing human feelings and sensations. Faith declares that they act upon Nature, or upon gods and demons which through and for faith are present in Nature. Thus common superstition has characteristically taken the uncomprehended words of the *Eucharist*, "Hoc est corpus meum," and as "Hocus pocus" simply made them into a charm, which belongs like the witches' multiplication-table to the necessary apparatus of those who appear to realise the impossible. So too the theologians do not think of the Creator as immediate originator of heaven and earth, as it were through his nature or will alone, but he must *speak* the creative fiat (this is in no way peculiar to the Judaic-Christian idea; "in the Indian and Persian religious systems the creative power of the word is placed at the apex of being"; the sound is "Brahma," it is said in the *Mimansa*, through the spoken word Parabrahma creates the universe. "When Ahriman, the wielder of death, stormed through the earth, spoke Ormuzd the Honover, the pure, the holy, the swift-working word, to maintain and protect creation" (Bastian).). Thus speculation, attaching itself to such naïve ideas, makes the word itself into God, or into the revealed Son of God; and as the word can create all and change all it creates and changes itself into flesh, and moves as man among men. But even beyond the sphere of the miraculous a mysterious actual value is attributed to the word, and to certain words therefore a good or evil significance as omens. And the power of the spoken word, especially in public speaking, depends largely upon the fact that certain words and turns of speech are endowed by the hearer with an additional meaning which arouses his feelings—his love, reverence, enthusiasm; his hatred, horror, wrath. Think,

for instance, of the "charm" in words such as liberty, equality, fraternity; and on the other hand of the gloomy associations which are aroused by the words compounded with "blood," such as blood-guiltiness, blood-feud, etc.

45. It is a part of the art of the orator, to awaken and to maintain by the right application, emphasis and accentuation of such words, the "mood" which prepares his hearers to accept his thoughts and to follow his counsels.

46. Artistic and poetic language is essentially allied to religious and all ceremonial speech. It, too, gets its original power and validity from the popular belief for which that is real and true which endures as image and simile in poetic language. Credulous imagination fills the world with living active spirits; natural man, and the teachers who lead him—priests and poets—believe that with all things it is as with men; they read human will, human passions into things, and in this way make them familiar and comprehensible—poesy is also explanation. All remarkable natural phenomena, and also events in human life, are for such modes of thought supersensuous demons, giants, gods and the like, or they are caused by these. The inclination and habit of filling, as it were, every corner with living beings, is heightened and strengthened by particular stories, fables and myths, in which it reveals itself; and there is constant interaction between these myths and *language*—sometimes the verbal expression is evoked by the myth, sometimes the myth by the verbal expression. But the former relation is by far the most frequent; the personification of things, or of the causes of events, is the natural assimilation of the strange to the familiar, and this naturally happens when speech is there through the material which it offers, though this material is modified by the myth for its use. The stories, as well as the generic modes of expression, are taught, handed down, and felt in and with the language; they grow with the spirit of the people, with custom, with religion, but they fall apart from it when the common mode of thought becomes more sober, thoughtful and reasonable, when poetry elevates itself as art above life. The meaning of many words, once as real as that of statements about actual experiences, is diminished, they are no longer regarded as signs of realities, but only as signs of images, and so "thoughts that had once a more real sense, fade into mere poetic forms of speech" (Tylor). But on the other hand, language also makes, first myths, and then at least sensuous ideas of things which persist much more

obstinately than the myths. And apart from its personifications of the inanimate, the economy of language treats all processes after the analogy of animal activities, all that is thought after the analogy of what is perceived, all that is perceived after the analogy of the organic beings to which the "I" of the speaker himself belongs. But where there appear to be activities of things—an appearance often due to our mode of speech—then the inference is given *ab esse ad posse*, from action to the power of action, and thus the "properties" of the "thing," perceptible and concealed (occult qualities), become "forces," from which the actual events necessarily, or, at any rate, in a comprehensible manner, proceed. We may take it as a familiar fact that these interpretations through the vehicle of so-called metaphysics, penetrate deep into the sciences, and can only be weeded out again with great difficulty. By the attribution of names, natural thought immediately satisfies the recurring need for knowledge and explanation; and this is closely connected with that imaginative-poetic animisation of nature which is always drawing fresh material from it, even though it becomes gradually drier and more prosaic. Even after scientific thought has proceeded so far as in our days among the best educated, that need is still always satisfied, when the activity of a human being is asserted or indicated as the cause of a phenomenon; at most we ask perhaps about his motives, and these again we refer to names which denote something familiar to all, *e.g.* anger, revenge, love, hate, etc. Natural thought explains *everything* by this analogy; and in the form in which it remains current with us also, outside the sphere of human activities, it is satisfied by a reduction to the analogy, after we have ceased to believe in the anthropomorphic interferences of supersensuous beings. We find an oak-tree shattered. "The lightning has done that," "the lightning must have struck here with terrific force"—it is something of this kind which we say when we follow our natural way of thinking; the imaginative and superstitious man of earlier times or of simpler culture says and thinks, "Zeus or God is angry with the possessor of this plot of ground, so he has shattered this oak with lightning". But we may speak in this or a similar way even when we do not believe it, and then it is a poetical or rhetorical figure; from such a point of view and fiction there may finally arise a merely *metaphorical* expression, *e.g.* lightning has raged here. All *figures of speech*, of which the metaphor is by far the most important and most characteristic, have this in common,

that in them the words have a non-literal (*uneigentliche*) in addition to their literal meaning—the former is as it were to shine through the latter, in so far as the figure is to be understood. But it may also happen that the speaker does not *wish* to be understood, or at any rate not by all who hear him; he is content, indeed he prefers it, if only a few understand him, perhaps he even wishes not to be understood at all—that is, not in the complete way in which the non-literal meaning is included. He desires then only to understand himself, and to communicate his real meaning only partially or apparently, or indeed to communicate only the exact opposite of it. Thus oratorical diction, *e.g.* irony, and especially hyperbole, borders on falsehood, and passes over into it. Falsehood is a use of words for a private end which is alien to them (*i.e.* to the social will contained in them)—for the end of exciting by apparent communication of our own thought an idea which differs from it, and in extreme cases is opposed to it. Here again in this special sense it is the power of belief—or as we might say by an obvious simile, the credit which the speaker enjoys—which gives their true significance to the words. This significance differs again according to the personality of the speaker and the words he uses; the same words have the full weight of their proper meaning when it is an honest man who has used them, and are empty words in the mouth of a knave or a downright swindler.

47. We contrasted with each other as the chief forms of the social will which gives meaning to words, the *customary usage* of language, and *legislation* in language. We now see that “popular belief” and “science” correspond to each other as opposites in a similar manner. Both forms of the social will may be regarded as delegates, popular belief of the customary use of language, science of legislation; *i.e.* as deputies which, within the whole sphere submitted to the formative power of custom or legislation, are armed with a special mandate, which they fulfil by attaching distinctive meanings to groups of words. In its application to language we will call popular belief the *genius of language*.

48. There is still one important form of the social will to be mentioned, which is as much the basis of legislation and science as the natural, we might say, animal conformity, “agreement,” is the basis of custom and popular belief. This form we call in its general nature “compact,” and in particular application to the meaning of signs *Verabredung* (convention). If we presuppose completely isolated individual wills, then compact is the natural and necessary form in

which they "come together," the form of their connexion or union into a social will. This form presupposes the existence of two or more free persons, *i.e.* persons who allow themselves to be determined by their own wish to remain strangers or to come together. The given matter, *i.e.* the conceptually simplest content of the compact, is the *exchange* of things. Here two wills, which were before opposed, each wishing to attach the greatest value to *his* things, unite in agreeing that two things shall be of the same value, or where the expression of value in one commodity is customary, that a given thing shall be worth so *much*, *i.e.*, shall be *equal* in value to so many units of the standard of value, whether this value outlasts the act of exchange or not. But in the same way any number of wills may agree upon a standard or norm of value, even though the "how much" value of particular things must be left, either to the comparison, or more exactly to the measurement, of one or more persons, or indeed to manifold agreements. (The Greek language denotes such union best as "composition" $\xi\pi\nu\theta\eta\kappa\eta$ —here the common will arises, as it were visibly, through the fact that several furnish thereto a contribution of their own will; and this can only take place by their "explaining" their will, *i.e.* making it known by signs. Such a sign may be the transference of a thing; but as an abbreviation, a spoken sentence, or finally a word may suffice. And it is only in words that the present will of a future will—a promise—can be expressed. Only in words again can an order, in general a proposition containing something willed for a time extending beyond the moment, be expressed. But such a one is the proposition about the value of signs, hence possibly also about the meaning of words. The *Imperative* concerning it either remains without expression, or it expresses itself in words). Measures, weights and coins, again, are signs, that is, signs of a covenanted or otherwise established *unit of measurement*, or of a compound of such, which certainly exists primarily only in thought.

49. Conventional signs between two or more are a matter known to every one. They are characterised by the fact that they may depart to any extent from the nature of natural signs and as a rule do so depart, more than signs of which the meaning is based upon the naturally growing social will. For instance, a stamp placed askew upon the envelope or a yellow rose in the button-hole, has not the slightest similarity or other relationship with the announcement "This afternoon at five, rendezvous in the confectioner's shop"; and yet both may serve the purpose of such an announcement

excellently, if only there has been a previous covenant. The power of the human will to *make* something into a sign here appears in its elementary (socially effective) form. The convention again about the special meaning of *words*, even of otherwise meaningless words, plays an important part in the social life. Especial occasion for this is afforded by the speedy but expensive communication between remote places ; *e.g.*, in the intercourse between England and India there arises a conventional "cable-language," at first perhaps within a family or a business, so that the syllable "tar" may have the meaning given to it beforehand "I have arrived safely," or the syllable "ver" the meaning "The price of silver is rising". It is a short step from this to make such signs as a means of *secret*, *i.e.*, exclusive, understanding, as opposed to the public common property of the popular language. In this sense there is a much older and larger application of *written signs*, which get their special value in the same way as the means of *secret* notifications and communications. But all such systems of private signs, like writing itself, presuppose an existing *language*, and refer to it, so that they represent *signs of signs* ; in abbreviated writing, such as stenography, they are as it were signs to the third power. The sign-quality of the original sign may be completely forgotten, and is generally forgotten ; indeed it may be stated as a rule that in so far as they are accredited through a *natural* social will, they have never been in clear consciousness as *willed signs*. This is quite clear when they are felt as, indeed taken to be, natural signs ; to which individual as well as social habituation conduces. On the other hand, it belongs to the *nature* of the *derivative signs* here under consideration to be thought and willed as *signs*, hence as means for common ends, by those who give them their meaning. Others indeed, who have not been active in this direction, may *accede* to the content of such a convention ; they then take it into their will without needing to reflect upon the nature and origin of the signs, which may therefore become as natural to them as the "mother-tongue," and the habitual forms of intercourse. But not even *origin* is decisive for the *conventional character* of signs and sign-systems. Whatever their origin, signs may *become* conventional, through the fact that they are felt, thought, applied as such, *i.e.*, essentially as external means. This is clear in the forms of intercourse themselves. We may maintain a naive and credulous attitude towards them, taking assurances of esteem, reverence, sympathy, as sterling coin, and returning them only when we *can* utter them with "a good conscience,"

i.e., when our thought assents; then we have a right to be wrathful at social lies. Or again we may give and take them as mere "tokens"; we know that they are nothing but means of expressing a readiness for intercourse, and of proving that we belong to a certain society, especially to that which calls itself good society. For this, according to its concept, there is only the one way, that of observing its rules, and one of these rules is the use of such modes of speech. They are not *meant seriously*, they are mere forms, without any content, or without any corresponding content, "hollow phrases" or whatever we may choose to call them. But whoever plays the game must submit to its rules. It is clear how this use of words is related to that of figures of speech. Here as there, transitions into the sphere of falsehood are easy. Falsehood emphasises the ordinary meaning, the literal sense of the words, and demands that this should be accepted, believed; what the liar has in his mind is not the non-literal meaning, but none at all. But lying is greatly facilitated by the figurative meaning—think of the rhetoric in the oaths of love and the asseverations of friendship. It is facilitated also by the social significance, or rather depreciation of words. A man endeavouring to obtain advantages by the use of flattery may limit himself to employing turns of speech which are current in his society; he merely needs to utter them with a special accent, with the warmth of tone which is wont to "come from the heart"; while if any one should seem to suspect him he can always take refuge in the plea that he has only been using the ordinary conventional language. The variations which may be observed here are manifold.

50. In this sphere, then, portions of the current language are, as it were, damped and kneaded into a dough; and it is possible also to have a whole language in which all word-meanings would have a conventional character, whether they refer immediately to objects, or (what is more probable) to many empirical (natural) languages. Old and new attempts to construct a *universal language* correspond to a thoroughly reasonable and necessary idea, which in the present extension of intercourse will sooner or later take deeper root and make rapid growth. We cannot indeed deny that in many respects it would be better to elevate a given, natural language to the rank of an *international* means of communication; and towards this end economic and political developments are pushing powerfully forward. Most indications are in favour of the English language, which happens to have certain constitutional advantages for such a *universal social use*, advantages which make it also more easy to learn than other

modern languages. We are to-day inclined to forget that our life of culture still has all its roots in a condition which was characterised by the universal predominance of such a language—of Latin ; that many most important remains of this predominance still exist ; that in certain spheres, *i.e.*, as the language of courts and of diplomacy, it was directly succeeded—in the seventeenth century—by French, and that this language also still retains a high degree of international application. In all these cases we have good ground to speak of a “conventional” acceptance. The relation which every one feels to a foreign language, especially when it has not yet “entered into his flesh and blood,” is very different from his relation to his mother-tongue ; the former resembles more the use of an instrument, the latter the use of an innate organ. Hence also when several people together use such an instrument for their mutual understanding, they are related to it as if they had established the meanings of these signs by agreement. At first, indeed, they are chained to the spirit, *i.e.*, the will or associations of this foreign language ; but the more they express their particular common affairs in this material, the more easily they handle it with a certain freedom, without meeting the hindrances which the “language-feeling,” the habit and memory of the rules of their own language, opposes. But even in the mother-tongue there is developed by “business,” *i.e.*, by all human intercourse in which each consciously pursues his own profit, an invention and use of words and turns of speech having a specific acceptance, which is similar to a conventional one. The social will contained therein differs from the naïve impulse to form language in its “reflective” nature ; it is conceivable in its ripe form only upon the basis of an old culture, its language is essentially a written language, its style a paper style.

51. The free handling of a given material is characteristic for all forms in which a free social will shapes itself ; but such a one is the will which must be reduced to the acts of the allied individuals themselves. We include here both the will which attains to expression in a normal legislation, and that which attains expression in a normal science. It is clear how legislation *can* proceed from convention. When any society elects a Commission, and instructs it to draw up the conventional rules accepted in it, altering them as may seem good, replacing the less expedient by the more expedient, and determines unanimously to conform to these *new* rules—then this Commission becomes a legislative body. Such an origin and authorisation of legislation is here

thought of as a normal case. It is true that in experience we find individuals and bodies who vindicate their right to issue laws in quite another way, preferably by a supersensuous ordering of things (*Jus divinum*). But experience teaches also that legislations of this kind aim far more at maintaining given conditions and habits, than at free, purposive, conscious innovations. They invariably belong to that form of the social will which we have called popular belief. This is indeed—even in its relation to customary language—formally free to create and to shape; but it is avowedly and essentially prejudiced in favour of the *old*, as that which is approved and consecrated, without reflecting upon its utility with reference to particular ends. Even the *speech* of religion is archaic, and not seldom uttered in language which is comprehensible only to the initiated and learned. Such is the language of the sacred art of pious song; elsewhere the development of language, as of all sign-systems, aims at abbreviations, but here preference is intentionally given to long stretched-out forms as to those which are traditionally solemn. Speaking generally, the “legislation” which is accredited in this way extends more to the forms than to the content of life. It is thus in close contact—and this is entirely true of popular belief—with convention, so that the conventional is often “only” another name for that which is held to be sacred. Convention also is primarily, and to a certain extent always remains, “conservative,” hence the “stiffness” of “etiquette,” the circuitous, ceremoniously solemn form of the language of old-fashioned courtesy, epistolary style, etc. But it is also natural to it to break away and to become a capriciously mutable, novelty-seeking “fashion”. *Law*, again, as practised and spoken, taught and explained, on the basis of customary law, moves between popular belief and convention with a much stronger preponderance of that preference for the old. So too the special *language* of law, which as technical approaches to learned and sacred language, but then as the language of a caste (of an order or faculty) is appropriated and transformed in a more free, *i.e.*, more conventional way. Then too conscious legislation deals with it quite arbitrarily—this we already presupposed—as it does with the law itself and in close connexion with it. We have said that in its free handling of the given material of thought and speech *science* resembles convention and legislation. Here again, as with legislation and strictly speaking with convention also, it is our *concept* of science of which we are speaking. That which in customary language is called so (at any rate in

German), *e.g.* Theology, Jurisprudence, political and moral disciplines, is not (in our sense) *free* science; it has so far remained fettered to tradition and popular belief, often also to convention and legislation. Mathematics and the mathematical sciences correspond most closely to our concept of science. Everything which is *called* science, like everything which is called art, has its *terminology*, its technical concepts. But for the most part these are not concepts in the sense we are now using, but only special names for special objects—things and activities which, in the experience of those devoted to such arts and sciences, have prominent significance. This in no way involves that those things and activities are not objective, therefore given for every one. It is different in science properly so-called. It (that is the mental activity devoted to it) *forms* its concepts, exclusively for its own ends, as mere things of thought, indifferent whether they occur in any experience, even knowing the impossibility of such occurrence. The natural growth of universal concepts, better called universal ideas, is not generally, or at any rate not with sufficient clearness, distinguished from this artificial, conscious formation of "*abgezogener*" (as in the last century "*abstract*" was translated into German) *concepts*. The natural growth of universal ideas precedes the growth of particular ideas; the former is an incomplete defective idea, with which an appropriate *name* is regularly attached to a few or even to one single prominent characteristic of perceived objects. Characteristics are, as the word (*Merkmale*) indicates, marks to help the memory, and indeed for the speaker they are the immediate causes of the name occurring. All names are originally both proper names and generic names. The often-cited instance of the little child who calls every man "*papa*" who does not by a new characteristic excite new feelings, is typical of the connexion of general ideas with names. Every apperception-mass (in the sense of Herbart and Steinkhal) which, once connected with a verbal sign, sets free the idea of this verbal sign when it is excited by actual perception, is a universal idea. The progress of knowledge attaches itself to the possession and knowledge of several names for the same object, to the distinction between them, *i.e.*, reference to different grounds or simply to the fact of being so-called; it is therefore connected also with the knowledge of *different* names for known objects in so far as they differ from each other, as with the knowledge of like names for the same object in so far as they are in some way similar to each other. To think of a condition as

yet untouched by anything which we can understand as science, the child is taught that this dog is *called* "Phylax" (without needing to learn the ground for this name), just as it is taught that both this animal and those which accompany its neighbour on the chase "are dogs," *i.e.* have this name in common. The difference is, that in order to apply *this* name rightly the child must learn to know the ground for it. We do not call all four-legged animals "dog," but these with the grave looks, which attract attention by their "barking"; other larger quadrupeds with manes are called "horse," while both dogs and horses are called "animal". Upon the ground of this easy discrimination by rough universal ideas, there begins with the learning of characteristics which do not force themselves upon immediate perception, the more specific naming of particular groups within an already established whole, and the comprehension of several wholes within the limits of larger wholes; for at first it is true that the more universal the idea the more indefinite. But while all *practical* knowledge consists and develops in the knowing of these *specific* universal ideas and names, *theoretical* interest depends much more on generalisations and their more accurate grounding and determination by actual characteristics. Thus side by side with the universal ideas, such as horse, dog, animal, which are elaborated into concepts, there arise new concepts, which afterwards become universal ideas, such as mammal, vertebrate, mollusc, and finally concepts of living beings of which not only do the common characteristics remain unknown without study, but which are themselves imperceptible for the natural senses, *e.g.*, the concept "bacillus". But in all these actual constructions of concepts nothing more takes place than the connecting of many presented objects into a single new apperception-mass, which possesses fewer characteristics in proportion as it is more universal. There is no essential difference when the objects or concepts are not things, but qualities or events. They are always just particular—sensuous or non-sensuous—impressions, to which there is attached a name, which now shows itself to be applicable to many such impressions. None of these concepts, any more than the natural universal ideas, are "abstract" concepts in our sense, but the names attributed to them denote many concrete objects in reference to certain characteristics common to them all. Of course it makes a great difference whether we *intend* to denote objects or ideas; the universal is not in the objects, but in the ideas.

52. We do not form an "abstract" concept until with the

name there is "invented," *i.e.* made and constructed, the *object* to be named; so that here idea and object coincide—whether the object is thought of as thing or as event. That which we desire to say of the concept we must apply immediately in the construction of our concept of the abstract concept. We define the abstract concept as a work of art of scientific thought, but scientific thought as an operation with such creations by *comparing* them, partly with one another, partly with concrete concepts or with particular ideas. The abstract concept is an object to which any characteristics are given, whether presentable to sense or not, whether found connected in reality ("in experience") or not; it is determined only by the end which the creation is to serve, and this end is knowledge of the *relations* between objects experienced, and capable of being experienced. There stands therefore at the head of abstract concepts, the concept of the simply thinkable, to which any name, *e.g.* A, may be attached as representing it. The operations of scientific thought begin by equating this concept to itself, which takes place through "words" in the form of the judgment $A = A$, the so often misunderstood proposition of identity. The proposition signifies the will of the scientific thinker to treat his concept as equal to itself, *i.e.* not subjected to change; and this will claims to be a *valid* will, because it is appropriate to that end within wide limits. For in a certain degree it is true that all objects of experience are not subject to change, *i.e.*, they may be so thought of, and this thought again serves an end, is indeed necessary, because it is only upon this assumption that we can *compare* such objects with concepts and therefore with each other. For the comparison of objects of experience is completely effected by referring them to the thought-object and expressing them therein. The thought-object is a standard. It may be described as an individual. While the universal idea becomes poor in characteristics in proportion as it is wide and more general, the abstract concept, no matter to how many phenomena it is to be referred, may be as richly furnished with characteristics as the end demands. It represents its own idea, the idea of a universal which is at the same time singular (particular); it is itself a sign, a symbol, and nothing else. It serves its end the better in proportion as its characteristics are clear and determinate, and in proportion as they are conditioned by each other and therefore referable to each other in equations; on the other hand it becomes useless if its characteristics are even in thought mutually exclusive, or—what is the same thing—contradict each other.

53. *Definitions*, according to the ordinary meaning of the word, are nothing but explanations of words which denote universal ideas. They are then meant to state what is comprehended in these general ideas. The old rules are familiar, that this must be done by combining the genus with the specific difference, and its corollary: that the definition must not be too wide, nor yet too narrow, hence that it must exactly cover that which the word really means. The investigation of the meanings actually accepted, *i.e.*, almost always in customary language or in some particular branch of customary language, is in itself an important scientific problem; but it has nothing to do with pure scientific thought. In this application the problem is generally confused with the quite different one which supposes that the person defining is to state in what sense he wills to use the general name. We say the problems are confused, for in the first place we are far from being always conscious of the difference, and in the second place it is expected that the scientific subject shall not behave as if he were sovereign; *i.e.*, that he should keep as closely as possible to customary usage. It is even assumed that the person defining apprehends his problem *best* when he really only unfolds the customary usage, in other words, when he thinks what every one thinks. If now it happens that a fluid and manifold usage is brought into a fixed and uniform form, then indeed such a limitation of the meaning may suffice for many ends. It is in this sense that laws determine the meaning of words; but then the theory breaks down that we are dealing with the *explication* of usage; it is manifest that we are aiming at establishing indisputable limits within which the law shall hold. Quite analogous is the end to which scientific definition must *always* refer; the fixing of a meaning within a train of thought, hence within a book, a system, etc. In coining a scientific *concept* therefore, we do it upon our own responsibility and with complete freedom in respect of customary usage. This is what Pascal means when he says: "nothing is more free than definitions". And so the more acute logicians have always seen that scientific definitions are propositions, the truth of which rests upon the will of the person advancing them. Even if a name already denotes a concept in some (*e.g.*) scientific usage (*i.e.* denotes a definitely limited universal idea), still the person defining must appropriate this concept and the name, if the definition is to hold in his mental context also, *i.e.* is to be true for him. But free definition is completely necessary when we are operating with those works of thought of the individual

which we here call *abstract* concepts. Such a definition is *more* than the explanation of what a name ought to mean (and still further removed from that which it may mean "in reality"); it aims chiefly at *describing* the matter, *i.e.* the object thought of, and then assigns to it, as an abbreviated mark, a name which is best chosen arbitrarily as one free from every other meaning. The description is here not merely a statement of limits, which must essentially refer to the comprehension of the concept; but it is as complete as possible a determination of its content, without regard to what the comprehension may be. It is only a *make-shift* when it is expressed in (not-defined) words of customary usage; science avails itself of this when and in so far as it has no other expressions defined by itself. Sigwart expresses this exactly in the words: "every definition presupposes a scientific terminology".

Note 1. Like other modern logicians, Sigwart distinguishes from merely analytic definitions "in which the value of a word is expressed by an equivalent formula," synthetic definitions, "which introduce the term for a new concept". But he does not notice that all definitions of scientific meaning are, at any rate in intention, synthetic definitions, and must be estimated by this idea; nor that in the postulate of real-definitions we are dealing with nothing else than with these; although he speaks in the context of formulae which "are externally like a nominal definition, but really different from it," yet he holds (a few pages before) that the concept of the so-called real-definition "has no longer any meaning for us in logic".

Note 2. The doctrine of Bishop Berkeley that nothing general can be thought, can only be disputed when it has been agreed what is meant by general and by thinking. But when he gives as example (and is followed therein by more recent writers) that we cannot *have an idea* of a triangle which is neither equilateral nor scalene, etc., then this is indeed true, but proves nothing. For no one will maintain that there is a natural universal idea of the triangle; but concerning the abstract concept triangle this is in fact sufficiently described as a plane surface enclosed by three straight lines, if the concepts of straight and of lines have been previously defined. The different sorts of triangle which are actual in idea or in diagram, are not related to the concept as species to genus, but are copies or realisations of it (in the first and second degree) and as such are, *for and with reference to* the concept, all of one kind. For the rest they are related to it as isolated experiments to an *ideal case* thought *in abstracto*.

54. But how far that which is valid in science is thought as valid by the social will, we still have to consider briefly, after we have first dealt with a most important *other sign*.

55. It is almost traditional in philosophy to compare words (or "concepts," only then we merely mean the names of the concepts) with *money*; as indeed we have already done in this essay, when—*e.g.*—we said that conventional forms of speech are sometimes taken for "sterling coin". The analogy is really far-reaching. It is essential to the word as to money that it is a sign, and that it shall be "valid" (in German *gelten* from which the word *Geld*), *i.e.* that they shall be through the social will substitutes for the objects of which they are signs. The *word* is the sign of objects as images or ideas; money is the sign of objects as values; *i.e.* in so far as they are thought of as useful-agreeable, and therefore make an impression upon what we may call in men will or endeavour, in short are affirmed. But we can without difficulty extend the analogy to the different senses in which money, like the word, has "meaning". In case A, it has its meaning through the natural social will, *i.e.* all coined money; in case B, through the artificial social will, that is all paper money. Just as the names of concepts may empirically be almost all derived from natural language, so also paper money has empirically a meaning through the fact that it is referred to "natural money"; but as in idea the names of concepts refer directly to artificial, constructed, and therefore equivalent objects, so also paper-money may be necessarily thought of as referring directly to artificial values, *e.g.* to equal hours of human labour. The antithesis demands somewhat closer consideration. As the word develops out of something which is not yet a word, so money develops out of that which is not yet money. Money is originally not different from other values, and then only slightly different. It is well known that in lower stages of economic development many values have the functions of money. "How quickly the saleability of an object makes it possible to naturalise it as money, is shown in innumerable instances by the reports of modern travellers" (v. Phillipovich.) Here the social will differs little or not at all from social practice, just as the individual will at its lowest stages is only the feeling of activity and the feelings necessarily developed from it of checked activity (pain) and facilitated activity (pleasure). But (2), "practice and custom have gradually raised the most saleable commodity (it should be the most saleable commodities) to a universally used medium of exchange (rather, to universally, *i.e.* within certain circles of intercourse,

valid mediums of exchange)" (v. Phillipovich). These commodities are the metals, and with increasing property the precious metals. Then comes the guarantee of the community for a given weight and given content. In Asia Minor "coinage developed by marking pieces of metal of a given weight with the arms of the city community, which was coining, as with a kind of common stamp" (Nasse). This guarantee is essentially a moral one, and therefore in fact always religious. The word Moneta which has gained universal significance by its passing into English (money), comes from the temple of Juno Moneta, the original Roman mint. But with the guarantee of public credit there is opened the door to deception and falsehood; here come in the historical debasements of the currency, which have played such a discreditable part, chiefly in times of transition to the modern state. The State, generally represented in its first phase by princes and their war-chests, lends value to the coins, not so much by moral guarantee as by force, which makes the universal medium of exchange into a legal medium of payment. The nature of this constraint first shows itself in its pure form in giving value to paper, by which printed notes are made into legal tender and are thereby also made current; their actual value being conditioned not so much by the moral as by the mercantile credit of the Government. This mercantile credit is the basis of whatever value substitutes for money may have, whether they are written, printed, or lithographed paper. It makes also *conventional paper-money* (whether so-called or not) in the manifold forms of circulating credit, and it is this which we regard as the earlier stage of a state paper-money. Here belong "bills of exchange, orders, cheques, coupons, stamps," and characteristically also "convertible state paper-money" (A. Wagner). Quite similar again is the bank-note, which is issued by a bank having a monopoly of notes, when the State has handed over to the bank the power of regulating the notes. But the management of every large bank, in a far greater degree than the management of any State, takes place according to *scientific* principles, especially according to the rules of the calculus of probabilities. We may call the bank-note (in accordance with its idea) scientific money. It is for this reason that philosophical schemes for a reconstruction of economic society are so often and easily connected with the thought of a purely credit-system, which is conceived of as a synthesis of the natural and the money system. The social value-sign would—like paper-money—derive its validity *only* from the social will;

but instead of referring to money—the half-natural sign of all values—it would refer like money *directly* to all values. Values are elsewhere made equal by exchange, in general therefore by trade; their equality has the conventional character. Here, on the contrary, an equation of values would take place according to scientific principles; values would all be referred to the necessary work incorporated in them, while the work again would be most simply referred to the average *time* of work. We often find a compromise between the former real and the latter ideal equation, *e.g.* in the legal determination of honoraria, or of official salaries, and it is also the basis of legal limitations of hours of work, and other interferences with free contract as the price-regulator of human labour. But the idea of reference to a “congealed labour-time” may further be aptly compared with the titles of property and claims which are both current in trade and legally valid; these have a reference indeed to a sum of money, but in pure titles to property (deeds) this reference is insignificant compared with its significance as participation in a *capital*, which figures only in the *account* with its money value.

56. The many senses in which we can say of a word or other sign that it has *meaning*, may then be classified as follows:—

1. Meaning according to the intention of the individual making use of the word or other sign (subjective meaning which is put into it).

2. But this meaning is essentially conditioned for the word, as for all socially *valid* signs, by the meaning which they *have* in regular usage (objective meaning). But the objective meaning is essentially different according as the social will which we regard as its originator develops this meaning by creating it together with the sign, or has assigned it for definite purposes to the sign. We call the former the natural, the latter the artificial meaning. The former is modified according to three forms of the will upon which it is based, and which we distinguish according to a principle which corresponds in the first genus (A) to the division of volitional actions into impulsive, habitual, and reflective; they were called, natural harmony, custom, belief, or in reference to language the impulse to form language, the usage of language, the genius of language.

57. But the forms of the social will of the other genus (B) were distinguished in an analogous manner according as it:—

1. Proceeds at its earliest stage from the individual will (sensuous stage);

2. Is represented by a constant recognised (Träger) wielder;

3. As thinking is represented by several, even if not recognised, subjects (purely intellectual stage). Thus we distinguish convention, legislation, science, which in application to the meaning of *words* we may call—

Agreement—Determination—Definition.

Now we must briefly show how to the kinds of meaning which are thus classified there correspond different methods for communicating and explaining the meaning of words and other signs. First of communication, and primarily with reference to words; here we must observe the speaker or writer. At the first stage communication, and correspondingly understanding, is *easy* under certain primitive conditions.

1. It is easy in proportion as there is intimate mutual affection, sympathy, or even mutual knowledge and familiarity. How easily here every sign is understood, every indication suffices, may be noticed in daily life even where language is fully developed, *e.g.* between lovers or married people, or among intimate friends, etc. The meaning of the word is here generally allied to and interwoven with the meaning of the sound, therefore with music, the "language of feeling".

2. It is easy again in wider range, in proportion as the vocal signs approximate to the natural signs (expressive and imitative sounds).

3. It is easy in proportion as they are supported by other signs, especially by *gesture language* (demonstrative sounds), or again as the merely *associative* sounds are supported by these and by the two kinds already mentioned. Communication is inversely more difficult, needs therefore the corresponding aids, where it lacks these. Gesture language most commonly appears as a substitute understood by every one where word-language is wanting or defective, or fails owing to organic defects. But in written communication the aids mentioned under 1. and 2. disappear; we can only indicate the desired intonation, partly by special signs, partly by the construction of the sentences. The understanding of what is written may further be facilitated by illustrations—from which writing is derived as articulate speech is from inarticulate—or under some circumstances be replaced by them. At this stage therefore communication is attached to individual and natural conditions. Its language (which is largely understood) is not yet a complete social organ, of which any one, born and bred in this

society, makes use with comparative ease and certainty. This is the case in proportion as the customary usage of language has become a power. Here a mass of fixed meanings has been elaborated, so that word-idea and object-idea are regularly blended. Nevertheless, in many expressions, especially those which are more remote from everyday life (the expressions of complex ideas) the customary usage is uncertain, and leaves therefore greater freedom to individual application. The more this freedom is used, the more the speaker has recourse to the conditions of the first stage, or must explain his thought (*i.e.* the meaning which he desires to see attributed to his words), in more ordinary words, hence in words more firmly established in usage, he must as it were "translate" them (*explicate* the complex ideas). The language of customary usage as a universal opposed to the many dialects, distinguishes itself in advanced states of culture as the *written language* from the *language of intercourse*. Here the communication of an individual meaning in a social material is indeed still liable to all the defects which are inevitable in using signs of signs; but knowledge of the language as fixed in writing forces us also to a more conscious subordination to the norms and rules which are imparted by teaching, and the observance of which again facilitates understanding, hence social application. This is true again of oral communication at the third stage. Communication here takes place to a large extent in fixed forms, which are consecrated by age and authorities, and are therefore handed on as valuable inheritances and familiar to every partaker. Here too the communication of ideas which predominates at the second stage is connected with the more easy excitation of feelings which characterises the first stage: of social feelings of a more differentiated kind, we may say of *festival-feelings*. In so far as this is what is realised, it is not hindered by the language being less comprehensible, or even incomprehensible; it then misses its proper determination, the words being reduced to the associations of their sound-meanings. Allied to this again is *poetical* language. Although like all art it is originally strictly fettered by popular intuition, tradition, culture, it still inclines in obedience to its imaginative inspiration to a freer use of language, and so becomes more hard to understand, unless this tendency is again frustrated by the imagination to which it has recourse in figurative expressions, in comparisons, in rhythm and metre. True poetry is the purest form of the genius of language itself.

58. In written communication again, artistic, elevated or

beautiful speech lacks the best of its means of expression. Where nevertheless such speech is to serve for permanent record, hence for the understanding of later generations, it has recourse, partly to short comprehensive formulae and to "symbolic actions," the meaning of which is more easily comprehensible and preserves its meaning better; partly to diffuse "circumlocutions". Hence we get the brevity of the lapidary style side by side with the breadth of the legal style—both aim at a deep impression of the meanings of their words. The language of writing is considerably influenced by these styles, and still more by all artistic styles in the use of words; and thus its reaction upon the oral use of language is increased.

59. The following stages correspond in a certain degree, as we have already noticed, to the three first; but they stand also in a social connexion, in such a way that the fourth in the whole series attaches itself to the third, the fifth to the fourth, etc. All three of the later stages presuppose in general a high culture, a language elaborated to a manifold use, hence also a written language. We have already said that they make free use of language as of an instrument; the word is consciously formed as a means to the end of communication. Hence all unessential "accessories" fall away, which express feelings and excite feelings; language becomes prosaic, and the "dry" written expression is therefore adequate; the individual element is submerged, and definite social styles, forms, and methods rule as patterns—and this all the more in proportion as what corresponds to these ideas presents itself clearly in reality. On the other hand we find just here a basis of developed individualism or egoism—endeavours which will succeed at any cost, hence also at the expense of others, and which regard even social ordinances and rules only as means to their ends, and subordinate themselves to them only unwillingly and conditionally. Thus the social and individual principles balance and struggle against each other, the sharp accentuation of both leading to antagonism. From this it follows for communication in words that here again understanding is only easy for one who knows the "language," but also the ideas; often indeed it is only possible through a process of "initiation". For the rest, it is to a large extent further conditioned by knowledge of the *personality* of the man who is uttering his will or his thoughts. It is from his trustworthiness that we must know whether he is concerned to communicate something real, or whether he *desires* only to reiterate meaningless conventional *phrases*, if not actually to

deceive or at any rate to express himself ambiguously. In the same way we must know whether the legislator is laying traps or snares by using ambiguous words (we remember the so-called "elastic paragraphs"); whether the scholar is intentionally shrouding himself in obscurity, and increasing the volume of words because concepts fail him. It is always here, especially when we have only the written signs of the words, that the widest field remains for explication (interpretation). This is essentially always translation into a more easily understood language or mode of expression. Generally speaking it is the more difficult within the same language, *i.e.* within a formally connected system, in proportion as the words have diverged from the social will originally contained in them. Hence the methods of interpretation are, (1) at the first stage Etymology; (2) at the second, inquiry into the best, *i.e.* most fixed and regular usage; (3) at the third, the fundamental intuitions, opinions, comparisons, images, etc., by which we can derive special meanings from general, higher from simpler, nonliteral from literal. Such derivation comes into play also at all the following stages. Here we must investigate, not only the original but also the most recent, modern sense, which the words are meant to have according to the intention of the conventionally bound individuals, according to the intention of the legislator, according to the intention of the scientific authors. It is chiefly *concepts* which are here denoted, *i.e.*, mental constructions of definite intention, which can only be explained in the words of ordinary language (1-3). In proportion as these words are ambiguous, of uncertain origin, wavering in usage, and figurative, a clear and certain interpretation is difficult. Hence the abundance of *commentaries* and of *controversies* upon ritual prescriptions of all sorts, after they have grown conventional; upon codes which attain or are to attain the force of law; upon philosophical systems in proportion as these are unhesitatingly recognised as valid, as for so many years were the *Physic* and *Metaphysic* of Aristotle; as recently upon Kant and for some time upon Hegel. So too poets and other authors who are held to be "classic" need explanations of *their* use of language. Holy books again and "oracles," which *wilfully* make use of ambiguous words.

60. We need only refer briefly to the fact that the analogy between the sign "money" and the sign "word" may be also extended to the kinds of communication and explanation, although this analogy cannot be carried into detail. In narrow circumstances of life, where needs are homogeneous,

permanent values are easily accepted as money; where development is more advanced only pieces of metal. But these the individual must test as to content and weight, until the guaranteeing stamp facilitates currency, and makes money the equivalent of all values. Generally no doubt is raised, although forgery endangers every one who partakes in the interchange. *Paper-money* is strictly speaking only a reference to money, thus a sign of a sign, but it may be a complete substitute for it, hence also it may stand for all possible values. It is still more exposed to forgery than coin; but more especially the danger is heightened of an injuriously increased output, which depreciates each unit, *i.e.*, depresses the actual value which is recognised as reasonable below its "nominal value". We may compare here the superfluity of words which is fraudulently or carelessly issued by orator or writer; and credulous commentaries thereon may well be estimated as the simplicity of one who has let himself be talked into accepting assignats, and thinks that they must be accepted from him again at their full value, because this value stands there printed and confirmed by stamp and signature.

61. In this context it still remains to explain the sense in which we have determined "science" as a form of the social will; the sense therefore whereby conceptual names receive their meaning, or let us say their currency. For this sense is in its normal form completely *conditioned* by the methods of handing on and interpreting such meanings. At earlier stages this is not the case. It is true that at all stages teaching is combined with the other ways in which the public or secret meanings of words are made known or become known; but at none does it exclusively form the essence of the social will, so that this will arises, is maintained and propagated by teaching. But of this nature is science. By teaching a community forms itself, which shares in the possession of its concepts; *i.e.*, in knowledge of their meanings, and in the art of operating with them. We found that for the (corresponding) third stage also teaching was characteristic; but there it is only the appropriate form of tradition which, in its less developed form, promotes spontaneous imitation by leading up to it. The social will, which we there defined as belief, exists before it and itself conditions it. But here it is thought—this again is only an ideal limiting-case—that the social will is primarily represented only by the individual person of the teacher; around him there gather the scholars, who acquiesce of their own free insight in the recognition of the concepts formed by

him, and agree that their signs shall hold good. Here teaching is far from bringing about a belief *in* the signs, participation in their special and consecrated or even only æsthetic meaning. For it the signs are in and for themselves completely indifferent, they are nothing but signs, *i.e.*, *means* for naming, without any "inner value". It is thus that we distinguish the concepts, and we are not inquiring here how the kinds of teaching are really related to each other; but we easily see that it presents numerous transitions from the one genus into the other. On the other hand it is clear that the "free assent," which Locke so earnestly recommends those who seek the truth to handle carefully, is founded more upon doubt than upon belief; but that it must before all be given to those concepts which are contained in judgments; that again it is this free assent which stamps concepts into *conventionally* valid means of knowledge. As a matter of fact free persons can, without being related as teacher and pupil, come to an agreement as to the validity of concepts and make compatible the meanings even of these words. But by the abstraction of science we express the thought—to which a wide reality corresponds—that the construction and coining of concepts is always originated by individuals of genius, who therefore to a certain extent, and primarily in their own school, occupy the position of legislators. Though in this sphere as in every other, tradition and blind belief play an important part, yet in a period of scientific life the development, transformation, and renovation of concepts, like the revolutions of industrial technics, is most widely open to observation. "The more of spiritual life a period contains, the more it will change the received condition of terminology" (Eucken).

II.—ON THE RELATION BETWEEN THE PHILOSOPHY OF SPINOZA AND THAT OF LEIBNIZ.¹

BY ROBERT LATTA.

IT is not my intention to reopen the purely historical question regarding the actual intercourse between Spinoza and Leibniz and the particular ideas or suggestions which Leibniz may reasonably be held to have directly borrowed from Spinoza. On this point it would hardly be possible to add anything to the thorough work of Prof. Stein in his *Leibniz und Spinoza*, which seems to me to prove conclusively that Leibniz was no more a plagiarist of Spinoza than he was a plagiarist of Newton, but that he was "philosophically *homo sui generis*," strongly influenced by thinkers like Plato and Spinoza, yet in his philosophy neither Platonist nor Spinozist but always Leibnitian.² A few of the historical facts may, however, be mentioned as having suggestiveness in connexion with the large problem of the relation between the two systems. About a year before Spinoza's death Leibniz saw him at the Hague and had several conversations with him. At this time Leibniz was without a philosophical system of his own, dissatisfied with Cartesianism and ready to receive suggestions. He had just completed a long course of mathematical study by discovering the Infinitesimal Calculus, and on the way to Holland he wrote a paper on the principle of motion, doubtless with the view of getting Spinoza's opinion about it. This question of the laws of motion (in view of the theories of Descartes) was one of the two subjects which Leibniz mentions as having been discussed in course of the conversations at the Hague, the other subject being that of the necessity of the existence of an absolutely perfect Being.³ In general it is clear from the evidence adduced by Stein⁴ that Leibniz made a most careful study of most of Spinoza's writings and that he regarded Spinoza's as the best of modern systems with the

¹ Read before the Aristotelian Society. ² *Leibniz u. Spinoza*, p. 184.

³ *V. infra* pp. ⁴ *Leibniz u. Spinoza*, p. 236 *sqq.*

exception of his own *Monadology*.¹ "Spinoza would be right," he says, "if there were no Monads."² And it is interesting further to notice that the doctrine of Spinoza which most repelled Leibniz was his denial of final causes, and that in almost every philosophical letter written by Leibniz from 1679 onwards the idea of final cause appears.

My purpose in this paper is to consider what light may be thrown upon the two systems and their relation to one another by taking account of the general scientific thought of the time. The dominating science of the seventeenth century was Mathematics, so that for a seventeenth century writer exact scientific method was synonymous with mathematical method. The endeavour to make an exact study of external nature, which was one of the first fruits of the revulsion from Scholasticism, led inevitably to the development of Mathematics as a science of calculation or measurement. Problems which formerly had merely a speculative interest now pressed for immediate solution, and the practical necessities of physical science led gradually to the development of new mathematical methods, such as the introduction of the notion of "infinity" by Kepler, the Analytical Geometry of Descartes and the Infinitesimal Calculus of Newton and Leibniz. Both Spinoza and Leibniz were mathematicians and as mathematicians they shared the ideal of their time, that of a mathematically exact and certain system of knowledge, a comprehensive "scientific" philosophy. They were both interested in mathematical problems, but from somewhat different points of view. Spinoza was chiefly impressed with the certainty and necessity of such geometrical demonstration as that of Euclid, which proceeded from self-evident axioms and unfolded with rigorous truth the attributes of certain objects from precise definitions of them. Leibniz, on the other hand, was more interested in the progress of Mathematics than in the security of its established methods. He sought to grasp the real nature of matter and he found the current Mathematics too abstract to be sufficiently serviceable. Atomism (as in Cordemoy, Gassendi and others) had charmed him for a time, and the metaphysical problems of the Eucharist (in connexion with the question of the reunion of Christendom) impelled him from another side to the study of matter. But Atomism represented matter as too absolutely discrete while Cartesianism made it too smoothly continuous, and some advance in mathematical method was necessary in order to reconcile the discrete and the

P. 252. ² *Lettre à Bourquet* (1714), Erdmann, 720; Gerhardt, iii., 575.

continuous. Thus while Leibniz is at one with Spinoza in seeking not mere speculative probability but "demonstration" in philosophy, he is not to be regarded as thinking of demonstration in exactly the same way as Spinoza did.¹

The form of Spinoza's *Ethics* makes it evident that he regarded demonstration in philosophy as a process analogous to the synthetic method in geometry, which endeavours to apply a canon of pure self-consistency to a variety of given geometrical figures. The aim of the inquiry is to ascertain the properties or qualities of the figures, and a property is shown to belong to a figure when it is proved to be consistent with the definition of that figure. Each kind of figure is treated as a distinct and separate species and their inter-relations are considered in a purely external way. The demonstrations are supposed to be pure, direct deductions from given premisses. But in reality there is a continual reference to experience, to the system of space, certain of the relations of which are expressed by the figures. The proof of each proposition requires a "construction" of some kind to be made, such as the producing of lines or the superposition of figures, and this construction is simply a reference to the unity of the system of space, in which the particular figure is an element (or combination of elements) related to others, and by which all the kinds of figures are ultimately determined. For instance, if you produce two sides of a triangle in order to prove something about its angles, you implicitly recognise that the triangle is not a self-complete system, the properties of which may be directly deduced from its definition, but that it is an element in a surface and that its internal properties are logically dependent on its external relations, or, at least, are in the most intimate connexion with them. Thus the synthetic method in geometry presupposes the system of space in its definitions and postulates, without showing how the figures described in the definitions or the right to demand these postulates follow from the nature of space itself. Now the mathematical form of Spinoza's *Ethics* is modelled upon that of Euclid's Geometry. There are numerous definitions of more or less independent things or ideas. Certain axioms are also assumed as self-evident, and from a combination of the axioms with the definitions the whole philosophy is regarded as necessarily following. The definitions are the substantial part of the

¹ Spinoza's demonstrations have, for the most part, the character of *reductio ad absurdum*. Leibniz writes of them: "Ce Spinoza est plein de rêveries bien embarrassées et ses prétendues démonstrations de Deo n'en ont pas seulement le semblant" (Gerhardt, ii., 133).

philosophy: the whole truth is an unfolding of what is implied in them. But the definitions of geometry are determined by space-experience; they are definitions of objects from which all characteristics except those of space have been thought away. And it is impossible to go a step beyond the definitions of geometry, to deduce anything from them, without a reference to the space which is their medium. Thus, as Tschirnhausen pointed out to Spinoza,¹ from the definition of a circle taken by itself it is impossible to deduce any of the properties of the circle except the uniformity of curvature by which it is distinguished essentially from all other curves. All the other properties of the circle can be deduced only through its being brought into relation with other things, such as radii, intersecting lines, etc. If, then, Spinoza's definitions correspond to the definitions of geometry, *i.e.*, if his method is a geometrical one, the definitions presuppose a system in which the things defined are elements, and apart from a reference to this system there can be no legitimate demonstration.

Now while it is legitimate for a special science, which does not propose to answer ultimate questions, to make postulates presupposing a system within which the objects of the science are inter-related, such a procedure is inconsistent with the purpose of an absolute philosophy. In order to expound the meaning of the universe *ordine geometrico* you must begin with a definition of the universe, just as in order to expound the meaning of a geometrical figure, you must begin with a definition of the figure. But while there are other geometrical figures by the aid of which the meaning of the figure defined may be further expounded, there is no other through which the meaning of the universe may be set forth. Either the definition must already include and express the whole of the properties of the thing defined, in which case it must say everything that is to be said, or it must express some property from which nothing further can be deduced except by the aid of other considerations, in which case it is inadequate as a definition. Spinoza, however, contends that while it is perhaps true in the case of very simple things or *entia rationis* (including geometrical figures) that the definition of the thing, apart from its relation to other things, yields only one property, this is untrue as regards real things. "For from this alone, that I define God as a Being to whose essence belongs existence, I infer several of His properties; namely, that He necessarily exists, that He is one, immutable,

¹ Ep. 82, Van Vloten and Land (71 in Bruder).

infinite," etc.¹ But the very terms of this definition imply a reference to other things. A Being whose essence involves existence is intelligible only in relation to a being whose essence does not involve existence; that which is *in se* can be thought only in relation to that which is *in alio*. And it is in virtue of this reference that the other properties of the object are deduced from the definition. Each of the properties is negatively proved by the use of such disjunctive axioms as: *Omnia quae sunt vel in se vel in alio sunt*,² and consequently the properties do not follow from the definition alone, but from the definition *plus* the interpretation of the terms of the definition, which is given in the axiom. That which is *in se* is that which is not *in alio*. If we go on afterwards (as seems to be the way of Spinoza) to deny the reality of that which is *in alio*, we stultify the whole procedure. To deny the reality of that which is *in alio* while we continue to assert the reality of that which is *in se*, is to alter the meaning of the axiom, to make it a disjunction, not between two kinds of things, but between the universe and nonentity. In other words, the axiom becomes tautologous: that which is *in se* is *in se*, the universe is the universe. Accordingly if the axiom has any meaning, Spinoza's definition of God implies that God is an element in a wider system, that He is *in se* in contrast with that which is really *in alio*. And yet Spinoza means by "God" the universe as one.

This is confirmed by an examination of Spinoza's own account of Definition in the *Tractatus de Intellectus Emendatione*,³ where he gives rules for the definition of a created (*in alio*) and of an uncreated (*in se*) thing. The rules for the definition of a created thing are (1) that the definition must include the proximate cause, and (2) that the definition should be such that all the properties of the thing can be deduced from the definition, considered by itself and not in conjunction with others. This is evidently equivalent to saying that in order to know truly a created thing, we must see clearly both how it is produced and what it produces (for, according to Spinoza, the relation of cause and effect is reducible to that of substance and attribute). The thing defined must, in short, be removed out of the realm of the empirical or casual and regarded in its fixed and eternal relations. It must be perfectly conditioned, put in its own place in the ordered system of things. Again, for the defini-

¹ Ep. 83, Van Vloten (72 in Bruder).

² *Ethics*, i., Axiom 1; cf. Axiom 2: *Id quod per aliud non potest concipi, per se concipi debet.*

³ Van Vloten, i., 29 *sqq.*; Bruder, ii., 36 *sqq.*

tion of an uncreated thing the rules are (1) that it should exclude all cause, *i.e.*, that the object should need for its explanation no other thing besides its own being ; (2) given the definition there should remain no room for doubt whether the thing exists or not ; (3) it should contain no substantives which can be used as adjectives, *i.e.*, the object defined should not be explained by abstractions and (4) we should be able to deduce all the properties of the thing from its definition. Now these rules are practically the same as those for the definition of a created thing. The first and second rules amount to saying that the proximate cause of the uncreated thing must be the thing itself, that it must be produced by no other thing. The fourth rule requires, as in the case of the created thing, that the idea be tested by its consequences, in other words, that the thing is real through its necessary relation to the whole system of things. The third rule is a caution against abstractions, which is equally applicable to the definition of a created thing, but is especially in point here, because in the definition of an uncreated thing proximate cause becomes *causa sui*. If it had been possible, as in the case of the created thing, to refer the uncreated thing to something else necessarily presupposed in it, there would have been less danger of abstraction. As it is, it seems to me impossible to escape abstraction in the definition of an uncreated thing. The definition of a thing can only mean a statement of the relations of that thing within some system of which it is a member or element, and this is virtually acknowledged by Spinoza in his rules for the definition of a created thing. But if this is so, every definition must be adjectival, must be made up of abstractions. In other words, it is impossible to give a true definition of an uncreated thing, if by an uncreated thing is meant the universe, the system of reality itself, which is the presupposition of all definition. Yet Spinoza bases his philosophy upon the definition of an uncreated thing and believes that he has deduced all from this definition.

Spinoza's imperfect recognition of the system which is presupposed in all demonstration appears to me to be due (in great part at least) to the way in which mathematical problems were regarded by him as by most of his contemporaries. The ancient geometers found that there were many problems which could not be solved directly by the aid of Euclid's definitions and postulates. In plane geometry Euclid postulated the straight line and the circle. But many problems (such as that of the area of a circle or the relation of its radius to its circumference) depend for their exact

solution upon the discovery of a relation between the straight line and the circle. Somehow it must be possible to express the circle in terms of the straight line. But you cannot do it with a ruler and a pair of compasses: you cannot draw or construct any figure which will solve the problem. The nearest approach to a solution that can be made is to construct a polygon with so many sides that it will come very near indeed to the circle. But you can never make the sides small enough for the figure to coincide with the circle. The sides will always remain finite straight lines, while the circle is the locus of a point which is continuously changing its direction. Accordingly the Greek geometers had recourse to the method of "exhaustions". Thus they regarded the area of a circle as being equivalent to the "limit" area of a circumscribed and an inscribed polygon, having the same number of sides, when the sides are made infinitely numerous. The polygons can never actually *become* the circle, but the ultimate difference is negligible, being as little as we like to make it, and accordingly the "limit" area to which each polygon approaches may be taken as practically equivalent to the area of the circle. Now this method is one of proof *per impossibile* or *reductio ad absurdum*. The area of the circle must be either equal to, greater than, or less than the limit area of the polygons. But to suppose it greater or less would be to suppose that the polygons do not yet coincide, *i.e.*, that the area is not the limit area. Therefore the area of the circle must be equal to the limit area of the polygons. But all proof *per impossibile* is merely a negative verification. It shows that anything other than the suggested law or truth (the thing to be proved) would be inconsistent with the general principles or constitution of some system, such as the system of quantity or the system of space. But it does not show how these general principles apply to the particular case or how the particular case follows necessarily from them, is an organic element in the constitution of the system. Thus, in the instance we have considered, the proof depends upon an actual construction or picturing in space of two dimensions *plus* a general reference to the nature of quantity as being such that every element in it must be either greater than, equal to, or less than any other. Space is assumed to be quantitative, and space of two dimensions is assumed to be such that straight lines and circles can be drawn in it; but neither the relation of space to quantity nor the nature of space of two dimensions as expressing itself in the straight line and circle is thought out or made an explicit premiss in the argument.

The reasoning is grounded on a more or less blind appeal to a system or systems that are presupposed without being thoroughly thought out.

A considerable advance upon the ancient methods was made by Kepler, who introduced the notion of infinity in connexion with the solution of geometrical problems, and by Descartes, who invented the analytical geometry or geometry of co-ordinates.¹ The introduction of the idea that a finite figure or a finite area is reducible to an infinite number of elements was an explicit recognition of the inadequacy of the Euclidean postulates as principles of demonstration, and it was the beginning of a train of thought which led inevitably to the Infinitesimal Calculus; but, as Pascal pointed out in defending Cavalieri, the geometrical method which proceeds upon the principle that the infinitely little may be neglected differs only in manner of expression from the method of exhaustions used in the Greek Mathematics.² Both are ultimately based on *reductio ad absurdum*. On the other hand, the general effect of the changes introduced by Descartes was (1) to make the relation between the system of space and that of quantity in general more clear and definite, by finding (in the co-ordinates) units of space-relation, and (2) to substitute for the empirical reference to space that is implied in the use of a ruler and compasses a method by which figures and their properties may be shown by calculation (without drawing or construction) to follow from the nature of space as extension in three or in two dimensions. The Cartesian method in geometry is thus more positive, direct and explicit than the method of the Greeks. Eliminating the postulates of Euclid, or rather going beneath them to the grounds on which they rest and thinking out what they imply, it gives a more perfect demonstration of the propositions of Euclid and solves more complex problems than the Greeks could have attempted. Nevertheless, while the Cartesian geometry was much more positive and thorough in its method of demonstration than was the synthetic geometry, it still retained the doctrine or hypothesis of limits in a negative form. It was (considering plane geometry alone) on the right lines towards a positive solution

¹ For a full history *v.* Gerhardt, *Die Entdeckung der höhern Analysis*, p. 6 *sqq.*, and Cohen, *Das Prinzip der Infinitesimal-Methode*, § 35 *sqq.*

² So Leibniz says in a letter to Varignon that the infinitesimal calculus "donne directement et visiblement, et d'une manière propre à marquer la source de l'invention, ce que les anciens, comme Archimède, donnaient par circuit dans leur reductions ad absurdum" (Gerhardt, *Math. Schriften*, iv., 92).

of the problem of the relation between a straight line and a curve,—a problem insoluble by Euclid because he postulated them independently; but the solution had still to be worked out, the unity of which the straight line and curve are immediate differences had still to be determined. The solution was obtained in connexion with the problem of drawing a tangent to a curve. If the method of limits is followed, the tangent is the limit of a secant cutting the curve in two points, when these two points are brought infinitely near to one another, *i.e.*, when they are separated from one another by less than any assignable distance. But even in the limit case we have still two points and a line,—an infinitely little line, it is true, but yet a line. The infinitely little distance is regarded as real but as negligible. Now just about the time of Leibniz another step forward was taken.¹ In connexion with the fact that finite numbers may be resolved into infinite series, it was contended that the finite line rests upon the infinitely little, that the infinitely little is really its generating principle. Every line has length and direction. An infinitely little line has infinitely little length; but no reduction in its length can make any alteration in its direction. Accordingly the infinitely little line means really the direction, which is the essence or generating principle of the line. Given the direction, the line may be drawn to any length, great or small. The essence of every line is thus its direction, that is its quality or characteristic and not its quantity as the distance between two points. The points presuppose the line. Thus, if we regard a curve as generated by the motion of a point, the tangent to the curve at any point will simply be the direction of motion at that point. The direction of the moving point changes continuously and, in the case of a regular curve, uniformly, in accordance with a law which is characteristic of the particular curve. Accordingly, in general, the straight line and the curve are essentially varieties of direction in space, the straight line being a continuous uniform direction, while the curve is a continuously varying direction of more or less complexity. And the direction of a curve at any point must be regarded as a ratio between two infinitely small quantities, because change of direction in a plane is relative to two axes and continuous change of direction means infinitely small variation from point to point. It was the solution of problems resulting from such conceptions as these that led to the discovery of the Infinitesimal Calculus.

¹ The advance was made by Roberval (1602-1675).

By this view that the infinitely little is the basis of the finite the older doctrine of limits is transcended. According to this negative doctrine of limits, an infinitely little difference between two figures (say) is negligible. But if an infinitely little difference is negligible, it must be for some reason. Infinite littleness is a matter of degree. An infinitely small quantity is a quantity less than any that can be assigned. But such a conception has no meaning unless we are speaking of an infinitely small *thing* or unity of differences, at the very least an infinitely small element in a numerical series which is not a bare addition or subtraction of homogeneous units but has some characteristic law of increment or decrement. It is the law or principle of the series, the nature or character of the whole, which enables us to say that the infinitely little difference may be neglected. Thus, adopting a phrase from Grandi, Leibniz writes to him in 1713 : " *Infinite parva concipimus non ut nihil simpliciter et absolute, sed ut nihil respectiva (ut ipse bene notas), id est ut evanescientia quidem in nihilum, retinentia tamen characterem ejus quod evanescit* ".¹ Accordingly, when it can be shown that two things ultimately " run into " one another or are continuous with one another, that is to say that the ultimate difference between them is infinitely little, it is presupposed that they are differences of a unity or that their difference is one of degree and not of kind. Thus the negative doctrine of limits implicitly presupposes a system within which its various objects are related, while the positive method, of which the fullest expression is to be found in the Calculus, explicitly recognises this system and regards the various objects or elements as necessarily determined by it. The method of limits was a true method so far as it went ; but it was inadequate because it did not think out its presuppositions. The advance that was made by Leibniz and his contemporaries consisted in investigating these presuppositions by inquiries (direct and indirect) into the true meaning of mathematical infinity.

We are now in a position to consider the agreement and the difference between the scientific standpoint of Spinoza and that of Leibniz. The mathematics of Spinoza are the mathematics of Descartes. Spinoza is at the negative point of view implied in the method of limits, while Leibniz is at the positive point of view implied by the method of infinitesimals. In mathematics the method of limits is logically dependent upon the method of infinitesimals ; it assumes, without

¹ Gerhardt, Leibniz's *Math. Schriften*, iv., 218. So also the conception of " infinities of infinity " is a favourite one with Leibniz, who frequently argues against the possibility of an absolute quantitative infinite.

justification or explanation, what the method of infinitesimals justifies and explains. The method of limits presupposes that the discrete is ultimately reducible to the continuous, the finite to the infinite ; but it does not show, as the method of infinitesimals does, how the continuous develops the discrete, how the infinite constitutes the finite. Similarly in the metaphysics of Spinoza the unity of an all-comprehensive system is presupposed throughout ; but the varieties of individual existence are not shown as proceeding from this system, as its logical development. The finite presupposes the infinite, modes presuppose attributes, attributes presuppose substance ; but the infinite is reached by thinking away the varieties of the finite, the attribute is that which is common to all the modes, *substantia in se* or *vere considerata* is *substantia depositis affectionibus*.¹ Thus for Spinoza "determination is negation," "the determinate denotes nothing positive, but only a privation of the existence of that nature which is conceived as determinate".² Geometrical figures as definite figures are unreal, because their definiteness is dependent on other figures : their reality is indeterminate extension. And in general, definite quantities of any kind, separate parts, are unreal : real quantity, "as it is in the understanding," "as it is in itself," is infinite, indivisible and single [*unica*].³ The infinite is thus the basis of the finite, the continuous of the discrete ; but the reality of the infinite and continuous is conceived in such a way as to imply the unreality, and therefore the negation, of the finite and discrete. Not merely is it maintained that the infinite and continuous are not products of the finite and discrete, but it is implied that the finite and discrete are not really (as finite and discrete) products of the infinite and continuous. Now it is interesting to find that, in thus emphasising the unity of "extended substance" and real "quantity," as against the variety of finite "bodies" and "quantities," Spinoza says that the attempt to show that "extended substance is composed of parts or bodies really distinct from one another" is as absurd "as if one were to attempt by the mere addition and aggregation of many circles to make up a square or a triangle or something else totally different in essence" or to make a line out of points.⁴ But the mathe-

¹ *Eth.*, i., 5, demonst. ; cf. *Eth.*, ii., 10, Schol. 2 : *Res singulares non possunt sine Deo esse nec concipi ; et tamen Deus ad earum essentiam non pertinet.*

² Ep. 86, Van Vloten (41 Bruder).

³ *Ibid.*, 12, Van Vloten (29 Bruder).

⁴ *Loc. cit.*

micians of Spinoza's own day were showing that rectilineal figures are not "totally different in essence" from circles and that finite quantity is the product of an infinite series, having a definite law or characteristic. The various geometrical figures are, it is true, not products of one another nor products of discrete quantities of any kind; but they are products or expressions of the qualities or characteristics of extension. Infinite extension is not something totally different in essence from all finite figures, something to be obtained only by getting rid of all finite extension. To call it "infinite" is to insist on its qualities or relations as determining its quantities, to regard it as a system from which certain finite figures, in all their finitude, necessarily follow, or rather a system of which these finite figures are the expression. And in general "infinite" quantity, in so far as it is really anything, is a negative name for quality, and to say that the finite presupposes the infinite is to say that quantity presupposes quality. This is the truth involved in Spinoza's account of the Attributes of Substance as infinite *in their kind*;¹ but it is a truth which is inconsistent with Spinoza's other contention that Substance is *absolutely* infinite. To think of anything as infinitely great or as infinitely little is to recognise negatively that the conception under which we are thinking it is inadequate, that the thing (as conceived by us) and its other are elements or differences within a higher unity. A circle, the radius of which is infinite, is a circle which is not a circle, and when we speak of it we mean to indicate that the conception of a circle as an independent finite figure is inadequate and that the difference between a circle and a straight line is a difference determined by some higher unity, which (so far) we do not explain. In the same way, when we speak of infinite space we mean that the space of mathematics is, by itself, an inadequate conception and that the system of space must itself be an element in some more comprehensive system. And in general, to say that a thing is infinite in its kind is to say that its kind is relative to some other kind and that neither is to be fully understood except through that of which they are both differences.² In other words, a thing which is infinite in its kind is a thing which is to some extent indeterminate. A thing absolutely infinite will consequently be a thing absolutely indeterminate. That is to say, a thing

¹ *Eth.*, i., Def. 6; *cf.* *Ep.* ii. and *Korte Verhandeling*, appendix, prop. iii.

² This, of course, means (what Spinoza would deny) that finite *Modes*, as well as Attributes, are each infinite in its kind. Thus, according to Leibniz, every finite thing "contains infinity," *v. infra*.

absolutely infinite must be a thing of which we have no conception whatever, for if we had an inadequate conception of it, it would be *infinite in its kind*, and if we had a perfectly adequate conception of it, it would no longer be infinite in the sense of indeterminate, it would be absolutely determined. In short, the mathematical infinite is always the indeterminate, while the infinite as applied to the real universe is the self-determined.

Now the characteristic feature of the philosophy of Leibniz is that, however imperfectly, it endeavours to give a positive solution of the problem of reality. And this is closely connected with Leibniz's point of view in Mathematics. Instead of regarding the infinite as the negation of the finite, to be reached by thinking away the finite, he conceives the infinite as the reality of the finite, to be reached by thinking out the finite. Every finite thing, according to Leibniz, "contains infinity": it is in some way constituted by the infinite, made up of infinitesimals. His account of the way in which the infinite actually constitutes or determines the finite is far from being perfectly satisfactory; but he has a sure grasp of the principle that the determining infinite means quality, characteristic, relation of some kind, and that it is impossible to get behind relations, behind the world as a system, or, in other words, to reach substance *depositis affectionibus*. Thus in the letter to Grandi already quoted (p. 342) Leibniz writes: *Infinitudo vera non cadit nisi in infinitum virtutis omni parte carens . . . et quantitates illae calculi nostri extraordinariæ sunt fictiones, non ideo tamen spernenda sunt. . . cum in calculo perinde sit ac si essent verae quantitates, habeantque fundamentum in re et veritatem quandam idealem ut radices imaginariæ.*¹ All quantity is accordingly quantity of something non-quantitative, quantity of some quality or characteristic. A finite straight line is a quantity of uniform direction, a finite curve is a quantity of direction which varies according to some law, a finite extension is a quantity of something extended. "Extension presupposes some quality, some attribute, some nature in the extended thing, which quality extends or diffuses itself along with the thing, continues itself."² This quality is conceived by Leibniz as potentiality, not in the sense of empty capacity (*puissance nœ*), but in the sense of something which contains implicitly within itself its own

¹ Gerhardt, Leibniz's *Math. Schriften*, iv., 218; cf. iii., 500: *Reale infinitum fortasse est ipsum absolutum, quod non ex partibus conflatur, sed partes habentia eminenti ratione et velut gradu perfectionis comprehendit.*

² Leibniz. Erdmann's ed., 692 b; Gerhardt's ed., vi., 584.

realisation (entelechy or *tendance*). The infinite develops into the finite, the qualitative into the quantitative. The infinitely little line is a direction, but in the direction there is contained implicitly every finite line having that direction: in other words, the line is a development of the direction. But, as we have seen, all such development is the development of a unity, or rather of a system, into its differences; it is something permanent unfolding itself in its changes. Now this implies that reality is not a bare unity, from which the differences have been thought away, but a system of differences, a unity which implicitly contains its differences within itself. This is the principle of the law of Continuity, which governs Leibniz's mathematics¹ and which has a considerable function in his philosophy. According to the law of Continuity, a thing may (as Leibniz himself puts it) be regarded as "equivalent to a species of its opposite,"² e.g., rest may be regarded as a species of motion (an infinitely little motion), equality as a species of inequality, unconsciousness as a species of consciousness, the finite as a species of the infinite. By this, of course, is meant not that the thing is a species of which its opposite is genus, but that the relation between them is reciprocal, it being possible to regard each as a species of the other. But this implies that both are elements within some unity or system which is inseparable from them. And it is this that leads Leibniz to insist so strongly on the explicit recognition of the principle of sufficient reason as a principle of method. The principle of sufficient reason is the principle that everything has a ground or reason which is at once identical with it and different from it, in other words that nothing is self-evident, purely self-identical. Thus the principle of sufficient reason is the principle that the ultimate reality is not a unity from which the differences have been thought away, but a system of elements in relation, a unity in difference. And of this principle the law of Continuity is manifestly a particular application, for it amounts to saying that, while all the varieties of things are real, no one of them is independent of the rest, the world is a system of "composable" things.

¹ Leibniz very frequently speaks of the law of Continuity as derived from the consideration of "the infinite" and as being the basis of the Calculus. For instance, in the *Specimen Dynamicum* (1687) he speaks of it as *principium ordinis generale, nascentis ex infiniti et continuo notione, accedente ad illud axioma, quod datis ordinatis etiam quasita sunt ordinata* (Gerhardt, *Math. Schriften*, vi., 250; cf. Cohen, *Princip der Infinitesimal-Methode*, § 52 sqq.).

² *Math. Schriften*, iv., 93. Leibniz says *contradictoire*, but the context shows that he means "contrary," opposite.

On the one hand, there is no absolute surd, no purely contingent thing: on the other hand the surd and the contingent are not absolutely "irrational" or illusory. The surd is reducible to an infinite series, the contingent is the product of an infinity of conditions, and thus each is a form of its other.¹

Accordingly we may, I think, put the difference between Leibniz and Spinoza in this way, that Spinoza expressly proceeds upon a method of deduction from self-evident first principles, *i.e.*, from a basis of pure identity, while this procedure is possible only because a system of identity in difference is presupposed throughout; and Leibniz, on the other hand, explicitly recognises this system as *practically* ultimate, while at the same time he professes to give a shadowy ground for the system itself (a ground of its *existence* but not of its *essence*) in the "choice" of God, which is rather a negative release into existence than a positive creation. Thus Spinoza's presupposition of a system of unity in difference as constituting the ultimate reality of things appears in his constant references to the "order and connexion" of things and ideas, to the proximate cause as giving the essence of a thing and to substance as *causa sui*, *natura naturans* and *natura naturata* (*i.e.*, substance as cause and effect, ground and consequent, yet both ultimately the same), to the *conatus*, effort or tendency in things, to the "series of fixed and eternal things" (universal singulars)² and to many similar conceptions.³ And, on the other hand, Leibniz shows the imperfection of his grasp of the principle which he himself insists upon, by treating the law of sufficient reason as an addition to the law of identity and by speaking of the essences of all abstractly possible worlds as being in the understanding of God, a *regio idearum* behind the actual world. In short the inconsistencies of the two philosophies

¹ *Vide* Leibniz, Erdmann, 83 b; Gerhardt, vii., 200: "The difference between necessary and contingent truths is indeed the same as that between commensurable and incommensurable numbers. For the reduction of commensurable numbers to a common measure is analogous to the demonstration of necessary truths or their reduction to identical truths. But, as in the case of surd ratios the reduction involves an infinite process and yet approaches a common measure, so that a definite but unending series is obtained, thus also contingent truths require an infinite analysis, which God alone can accomplish" (*Cf.* Cohen, *Infinitesimal-Methode*, § 48).

² *Vide Tractatus de Intellectus Emendatione.*

³ *E.g.*, Spinoza uses the very terms in which Leibniz states his principle of sufficient reason: *Cujuscunque rei assignari debet causa seu ratio, tam cur existit, quam cur non existit* (*Eth.*, i., 11, *demonstr.* 2).

are similar, but the emphasis is on opposite sides. A comparison between Spinoza's "Attributes" and the qualities which Leibniz attributes to his Monads may serve to illustrate this. Spinoza speaks of substance as *constans infinitis attributis*,¹ which means that substance must contain every possible kind of reality. Each of these attributes "expresses eternal and infinite essence," *i.e.*, each expresses the whole and in its own way expresses it completely. There is no degree in their expression of the whole (as, for example, there is degree in the perfection with which the Monads express the whole). And an attribute is defined as *id quod intellectus de substantia percipit tanquam ejusdem essentiam constituens*.² The human understanding, because of its finitude, perceives only two of these attributes, and we are thus left to infer that an infinite understanding must perceive the infinite attributes. But the infinite attributes do not limit one another. One idea limits another and one body limits another; but thought does not limit extension nor extension thought. Accordingly the infinite attributes must mean simply the totality of abstract possibilities for an infinite intellect. That is to say, they are very much the same as Leibniz's infinity of "possible" ideas or essences in the understanding of God. Ultimately, then, there is no connexion between the attributes. They do not form part of one system; otherwise they would limit one another. In Leibniz's language they would not merely be "possible" but "compossible". Yet they are held to be parallel expressions of substance, and this parallelism seems to imply that they do belong to the same system, that they are differences within its unity. On the other hand, when Leibniz attributes to every substance two fundamental qualities, "perception" and "appetition," he is defining substance as system within system. Perception is simply a name for the relation of one term or element to every other element in the system, while appetition is a name for the development of the system from within itself. Ultimately it is implied in Leibniz's view that appetition means simply change of perception, variety of relationship. But the perception and appetition are attributed by Leibniz, not to one substance or to one ultimate system of things, but to each of an infinite number of substances, which are indeed regarded as related to one another, but which are so externally related, so independent in their own being, that each lives its own life as if there existed nothing but God and itself. Thus the notion of system is

¹ *Eth.*, i., 11, and def. 6.

² *Ibid.*, i., def. 4.

explicitly recognised by Leibniz, without being thoroughly thought out. His "system" is not all-inclusive. The world is not the one system of reality, but "the best of all possible worlds". The elements of which it is composed are essentially "possibles," in their own nature completely independent. Thus the world is the system of the "compossible," resting on the chaos of the "possible".

The results of this general argument cannot be worked out within the limits of this paper, but I may take up one or two special points. (1) In the first place, as most closely connected with the general line of thought we have been following, let us consider the views of Descartes, Spinoza and Leibniz regarding extension and motion. According to Descartes, extension and motion are absolutely *given*. Extension is a created substance, in the sense that its existence presupposes nothing else except the *concours ordinaire* of God. Motion is also a direct creation of "God Himself, who in the beginning created matter along with motion and rest and now, by His *concours ordinaire* alone, preserves in the whole the same amount of motion and rest that He then placed in it".¹ From the combination of these two absolutely given elements—given in separation from one another—Descartes in his *Principia*, part iii., tries to show that the whole material world in its endless variety comes into being. Ultimately, then, all matter is space of three dimensions *plus* motion. Spinoza, excluding the idea of creation, reduces the independence of extension, treating it not as substance but as an attribute of substance, *i.e.*, as something which on the one hand is not relative to anything else except understanding, while on the other hand, being relative to understanding, it is not substance itself. This attribute of extension, however, is not what we call space of three dimensions, for it is one and indivisible.² In short, extension, for Spinoza, is that which is presupposed in extended things, that which remains when all the limits (the finitude) of extended things are thought away. And thus, of course, Spinoza rejects the view of Descartes that the essence of matter or corporeal substance can be an extension that is divisible. Divisible extension is extension conceived "abstractly or superficially, as by means of the senses we have it in the imagination".³

¹ *Principia*, ii., 36.

² Extended substance, according to Spinoza, can have no parts; for if it had parts, each of them would be a substance and would be finite, which is a contradiction of the nature of substance as that which is infinite inasmuch as the conception of it requires the conception of nothing else; cf. Ep. 12, Van Vloten (29 Bruder).

³ *Loc. cit.*

Again motion, according to Spinoza, is an infinite mode, that is to say, it is an immediate modification of the attribute of extension, "following from the absolute nature of that attribute".¹ But he makes no attempt to show how motion "follows from the absolute nature" of extension. All that he can really mean is that motion presupposes extension. Motion is the stepping-stone between finite bodies and the infinite attribute. The differences of finite bodies all presuppose (or are reducible to terms of) the motion of particles, this motion of particles as a totality presupposes (when we think away the finite element in it, the parts or particles) an infinite motion, which similarly presupposes extension, which in turn presupposes substance. Each stage is obtained from that which preceded it by the removing of certain determinations, until we reach the "absolutely indeterminate".² Now the characteristic feature both of Descartes's and of Spinoza's view is the negative form in which the relation between extension and motion is regarded. According to Descartes, motion comes to extension entirely *ab extra*: according to Spinoza, motion, being a mode, presupposes extension, but extension, being an attribute, must be conceived through itself alone and is therefore independent of motion. Hence, when Descartes takes it as the fundamental principle of his laws of motion that the quantity of motion and rest in the universe (or in any isolated system of bodies) is fixed and unchangeable, he leaves out of account the direction of motion, because that is a quality not of motion *per se* but of motion in space. Further it is interesting in this connexion to recall the fact that Leibniz on his journey to Holland to visit Spinoza wrote a paper on the principle of motion, and that one of the few things he tells us about his interviews with Spinoza is that "Spinoza did not quite clearly see the defects of Descartes's laws of motion: he was surprised when I began to show him that they were inconsistent with the equality of cause and effect".³ Now Leibniz's objection to Descartes's laws of motion is that they are too abstract. Motion, of course, mathematically considered, must be an abstraction; but motion regarded as something given quite independently of extension is motion considered more abstractly than is necessary. In fact motion and extension mutually presuppose one another: they are both abstractions from one reality. This might be illustrated by the fact that

¹ *Eth.*, i., 21; cf. Ep. 64, Van Vloten (66 Bruder).

² Ep. 36, Van Vloten (41 Bruder).

³ Foucher de Careil, *Réfutation inédite de Spinoza*, p. lxiv.

(as we have already seen) the figures or determinations of extension are reducible to directions of motion (leaving out of account mass, or moving body, and velocity). All real motion, then, has direction; it is given, not independently, but in relation to extension. And consequently the motion whose quantity in the universe is fixed must be motion having direction: the direction is conserved as well as the quantity of abstract motion. But the direction of a motion is not something actual in the sense that it can be seen or pictured as a whole. It is a quality, a potentiality or partly hidden tendency in the motion, an infinitesimal, out of which the finite motion develops. This potentiality or tendency, which is presupposed by all actual motion when we take into consideration its direction, is what Leibniz means by Force. And thus for Leibniz Force, as qualitative, as a potency passing into actuality, an identity in difference, is the substance or reality from which actual visible or picturable motion and extension are abstractions.¹ An infinitely little line is a direction of motion and an infinitely little motion (or direction of motion) is a force. Thus the positive interpretation of the infinitely little means a passing from superficial ideas of sense and imagination to deeper and more comprehensive notions of thought, from the abstract to the concrete. But the attitude of sense or imagination is not absolutely cut off from the attitude of thought or understanding. Comprehension by the understanding is a thinking out of what appears imperfectly in sense.

(2) This leads naturally to a brief consideration of the difference between Spinoza's theory of knowledge and that of Leibniz. Spinoza draws a sharp line between *opinio* or *imaginatio*, on the one hand, and *ratio* and *scientia intuitiva*, on the other. *Opinio* or *imaginatio* is the cause of falsity, while the knowledge given by *ratio* and *scientia intuitiva* is necessarily true.² Thus in the *Tractatus de Intellectus Emendatione* we find Spinoza insisting mainly on the distinction

¹ Thus Spinoza and Leibniz are both opposed to Descartes's theory that extension is the essence of corporeal substance, on the ground that divisible extension presupposes something *omni parte carents*. But this indivisible basis of extension is conceived by Spinoza negatively, as being entirely without parts in any sense, as being *one* in opposition to *many*, while Leibniz conceives it positively, as something which has degrees or varieties and thus as one *in* many. The difference is so considerable and so closely connected with Leibniz's mathematics that I think it ought to weigh heavily against the suggestion of Stein (p. 64 *sqq.*) that Leibniz was probably influenced by Spinoza in his criticism of Descartes's view of "extended substance".

² *Eth.*, ii., 40, 41.

between the empirical order of events, which is the work of imagination, and the real order of existence, as it is known by reason. Mere perception or the history of events which has no higher principle of order than memory, mere sequence in short, is dismissed absolutely as illusion. But, on the other hand, *veritas norma sui et falsi est.*¹ Falsity presupposes truth, imagination presupposes understanding. But there is no positive relation between them. Without understanding and truth there can be no imagination and falsity; but without imagination and falsity there might be understanding and truth. Leibniz, on the other hand, makes the difference between sense or imagination and understanding one of degree. The difference between them is ultimately an infinitely little one, or rather they are elements in a continuous series of perceptions, differing from one another by infinitely little degrees of clearness and distinctness. And, just as every finite number may be resolved into an infinite series, so every finite perception is made up of an infinity of *petites perceptions*, which are relatively obscure and confused. Every perception thus "contains" or "involves infinity," and the notion of perception is stretched out so as to include every kind of relation, whether conscious or unconscious. Accordingly the relation between sense (or imagination) and understanding comes to be reciprocal. Each presupposes the other. Understanding is the evolution of sense, while sense is the involution of understanding. To this extent the positive view of Leibniz transcends the negative position of Spinoza. But Leibniz does not see clearly all that is involved in his method. For instance, the infinity of *petites perceptions* into which Leibniz resolves a particular sense-perception is an infinity of elements, each of which is and is not a sense-perception, each of which belongs in some way to sense but does not belong to sense-consciousness. Now (as we saw when dealing with the relation between the finite and the infinite) this means that the distinction between the conscious and the unconscious is not ultimate, that it is an expression of some deeper unity, that the conscious and the unconscious are inseparable elements in a system. Consequently in the *petite perception* we ought to find that which determines the distinction between the conscious and the unconscious, i.e., the comprehensive unity in difference, which expresses itself in them. Such a unity would be the unity or system of reason or of self-consciousness, which reveals itself in the distinction between conscious and unconscious, subject and

¹ *Eth.*, ii., 43, Schol.

object, and which thus transcends that distinction. But we shall look in vain for any such system in the *petites perceptions* of Leibniz. It is true that he regards them as somehow having order in them, as containing implicitly a law of *some* sort; but in reality he conceives them, not positively but negatively, as sensations *minus* consciousness, *i.e.*, as "limits" of conscious sensations, and thus any order they may be supposed to have is not an order of their own, but the order of conscious perception read into them. There must, for example, be among conscious perceptions an order or system which is expressed in the distinctions between (say) sensations of hearing and sensations of sight. A similar order must be supposed to exist among the *petites perceptions*. But this second order is presupposed in a purely negative way. If we have a conscious perception of the sound of 100,000 waves, we must *somehow* have perception (though unconscious) of the sound of each;¹ but Leibniz makes no attempt to indicate exactly *how*. His argument here is simply the *reductio ad absurdum*, which is the characteristic argument of Spinoza. And Leibniz's failure at this point accounts for the difficulty he finds in dealing with the rational or self-conscious soul. He sees clearly that the conscious in some way presupposes the unconscious; but he has not an equally clear grasp of what is involved in the truth that the unconscious presupposes the conscious. Hence it becomes increasingly difficult for him to carry out his law of continuity when he comes to consider the higher parts of the scale of being. He cannot, for instance, conceive that a self-conscious soul should ever lose its self-consciousness and permanently become merely conscious or unconscious. And thus he hesitates between the hypothesis that rational souls have been raised from the rank of sensuous souls "by the extraordinary operation of God" and the hypothesis that "only those souls which are destined some day to attain to human nature contain in germ [enveloppent] the reason which will some day appear in them".² On the whole matter Leibniz is very inconsistent and unsatisfactory; but, whichever of his hypotheses we follow, it is evident that he did not realise

¹ *Nouveaux Essais*, *Introduction* (Erdmann, 197; Gerhardt, v., 47). One might ask—why a separate *petite perception* for each *wave* and not for every possible *element* in each *wave*? The single *wave* is quite an arbitrary standard for the unit of perception: there is nothing to show why it should be chosen.

² *Théodicée*, § 397; cf. § 91, and *Lettres à Arnauld* (1686-7), Gerhardt, ii., 75 and 99; also *Lettre à des Maizeaux* (1711), Erdmann, 676; Gerhardt, vii., 534.

the true consequence of his own principles, *viz.*, that self-consciousness, as the more concrete principle, is necessarily implied or presupposed in the continuity of the conscious and the unconscious, that it is the system in which they are elements. Such a conclusion would, of course, have destroyed the monadology by making the universe a single all-comprehensive Monad. Accordingly Leibniz at this point falls back upon the method of Descartes and Spinoza, practically (though not avowedly) treating the self-conscious soul as discontinuous with the conscious and the unconscious, as having some new quality that is a sheer addition to the qualities of these lower souls.

(3) This beginning of a rift in continuity widens into an open self-contradiction when we come to Leibniz's account of God, the highest in the scale of being. The contradiction consists in regarding God as at once the highest Monad and the being in whose understanding the essences of all possible systems are and who by His choice makes the best possible system real. God is thus both within and without the system of monads. In so far as He is merely an element in the system, He is less than God: in so far as He is outside of the system, the continuity is broken. Leibniz's own suggestion regarding the proof of the existence of God would, if thought out, have revealed the contradiction. He says that the Cartesian ontological proof of the existence of God is incomplete. It ought, he says, to run: *if the most perfect Being is possible (i.e., if the idea of a most perfect Being is not self-contradictory), it follows that the most perfect Being exists.* And he argues that, for instance, there is no swiftest possible motion, because the idea of it can be shown to be self-contradictory. But Leibniz failed to observe that, if the most perfect Being is regarded as one of a series, the idea of it is self-contradictory. For either it contains all the perfections (*i.e.* in Leibniz's sense, the positive reality) of the other members of the series or it does not. If it does, it is no longer to be regarded as *one* member of the series; if it does not, it is no longer most perfect, for *ex hypothesi* it lacks some perfections.¹ Leibniz misses the contradiction by arguing that the idea of a most perfect Being is not self-contradictory, for all perfections are mutually compatible. This argument, however, was made by him long before he had thought out his monadology, and he tells us that in one of the interviews at the Hague he submitted it to Spinoza

¹ That is to say, we should have a "best possible" God, corresponding to the best possible world.

who, though inclined at first to oppose it, ultimately admitted it to be satisfactory.¹ The fact is interesting when we consider that the contradiction in Leibniz's account of God is the exact counterpart of the contradiction in Spinoza's view of substance. Leibniz treats God as at once an element in the system of things and a Being independent of the system, but of such a nature that the system itself seems unnecessary; while Spinoza, as we have seen, regards God or Substance as equivalent to the Universe as one, and yet his definition of God implies that He is an element in some wider system. From opposite sides Spinoza and Leibniz fall into the same pit.

In this paper I have been able to do little more than indicate a line of thought which, it seems to me, may be fruitfully developed. It is easy, on the one hand, to show that Spinoza and Leibniz are both inconsistent and, on the other hand, to maintain that they both say exactly the same thing in slightly different ways. The armoury of the more recent philosophy equips us for the one task, and a collection of parallel passages might fortify us for the other. But neither of these things profits us a whit. Turning from them, I have endeavoured to show that what is admittedly implicit in the philosophy of Spinoza is made comparatively explicit in the philosophy of Leibniz, although Leibniz does not by any means thoroughly work out the consequences of his own method. And the philosophical attitude of each is, I think, very closely connected with their views of mathematics. The negative doctrine of limits, when it is thought out, issues in the positive doctrine of infinitesimals, which it presupposes. Thus Spinoza argues vigorously against the reality of final causes as involving the introduction of the negative, the finite, the determinate into substance, while in his constant references to the order and connexion of things² and to the *conatus* or self-preserving tendency in each individual thing, he presupposes that determinate system of inter-related elements which his explicit argument against final causes would exclude. Leibniz, on the other hand, is concerned for nothing more than for the reality of final cause. It is the point regarding which he most sharply differs from Spinoza and in his correspondence he returns to it again and again. Nevertheless in the end he puts behind his rational or

¹ Gerhardt, vii., 261.

² Compare these with the passage in the appendix to part i. of the *Ethics*, where Spinoza attributes the belief that there is order in things to imagination, as distinct from understanding.

"inclining" necessity, a necessity of blind fate, behind his "compossible" system a chaos of empty "possibilities," so that the real world is practically taken as a creation out of nothing, a development of that indeterminate capacity, that *puissance nue*, which Leibniz himself most frequently derides.

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III.—CAN THERE BE A SUM OF PLEASURES?¹

BY HASTINGS RASHDALL.

THE doctrine that pleasures cannot be summed, that there is no meaning in the idea of a sum of pleasures and that consequently the "hedonistic calculus" is impossible and unintelligible, has long been maintained by a certain section of anti-utilitarian writers, among whom it will be enough to mention the late Prof. T. H. Green and Mr. Bradley. It must be confessed, however, that it is not very easy to extract from either of these writers the exact grounds or even the precise meaning of their contention. Prof. Mackenzie in his *Manual of Ethics* and his *Introduction to Social Philosophy* has performed a real service by putting the doctrine into a form in which it is more easy to subject it to examination and criticism. In the following pages, however, I shall not confine myself to what Prof. Mackenzie has advanced, as what appear to me the misconceptions which underlie his reasoning are widely diffused and seem often to be assumed in the language of writers who have been less explicit. My object is rather to get to the bottom of the misunderstanding than to criticise any particular writer; I do not therefore wish to be understood as holding Prof. Mackenzie responsible for every argument that I may criticise except where I expressly quote him.

It may be well at the outset to explain that I am not in the least interested in the defence either of the hedonistic Psychology or of hedonistic Utilitarianism, both of which I entirely reject on much the same grounds as those which would be assigned by the writers I am criticising—writers with some of whom I should largely agree in their general view of Ethics. This is particularly the case with regard to Prof. Mackenzie, who is entirely free from that sectarian prejudice against Casuistry and that dislike to the scientific treatment of practical problems which are characteristic of several writers by whom the incommensurability of pleasures has been maintained. It is unnecessary for my present

¹ Read before the Aristotelian Society.

purpose to indicate in any detail what in my own view is the place of a hedonistic calculus in Moral Philosophy. It is enough to say that I do not regard the promotion of the "greatest quantum of pleasure" as a true or adequate formulation of the moral criterion. I believe that many other things—most of all Goodness, and, in a lower degree, intellectual goods such as knowledge, contemplation of beauty, culture and the like—possess a value which is not dependent on the pleasure by which they are normally accompanied, and which very much exceeds the value of the pleasure considered simply as such. At the same time pleasure does appear to me to have intrinsic value. I maintain—with Plato, Aristotle, and in fact almost all ethical writers except the Stoics and their imitators of the Greenian School—that pleasure—or rather (since there are bad pleasures) *some* pleasure—is a good, though not *the* good. And this assertion seems to me to carry with it the implication that *ceteris paribus* the more pleasure the more good; *ceteris paribus* the greater amount of pleasure is to be preferred to the less. I regard it, therefore, as a part of duty, though by no means the whole, to promote as much pleasure as possible—excluding, of course, bad pleasures. The promotion of a "greatest quantum of pleasure" or of a "greatest amount of pleasure on the whole" does appear to me a possible object of human desire and human action; though this aim should be pursued in due subordination to the higher elements in of that *εὐδαιμονία* or total Well-being of Humanity which the good man will regard it as his duty to pursue. These are the propositions which I understand to be denied by the writers I have in mind. It will be well to start with a few specimens of these denials.

(1) The late Prof. Green wrote as follows: "A *Summum Bonum* consisting of a greatest possible sum of pleasure is supposed to be definite and intelligible, because every one knows what pleasure is. But in what sense does every one know it? If only in the sense that every one can imagine the renewal of some pleasure which he has enjoyed, it may be pointed out that pleasures, not being enjoyable in a sum—to say nothing of a greatest possible sum—cannot be imagined in a sum either. Though this remark, however, might be to the purpose against a Hedonist, who held that desire could only be excited by imagined pleasure, and yet that a greatest sum of pleasure was an object of desire, it is not to the purpose against those who merely look on the greatest sum of pleasures as the true criterion, without holding that desire is only excited by imagination of pleasure.

They will reply that, though we may not be able, strictly speaking, to imagine a sum of pleasures, every one knows what it is. Every one knows the difference between enjoying a longer succession of pleasures and a shorter one, a succession of more intense and a succession of less intense pleasures, a succession of pleasures less interrupted by pain and one more interrupted. In this sense every one knows the difference between enjoying a larger sum of pleasures and enjoying a smaller sum. He knows the difference also between a larger number of persons or sentient beings and a smaller one. He attaches therefore a definite meaning to the enjoyment of a greater net amount of pleasure by a greater number of beings, and has a definite criterion for distinguishing a better action from a worse, in the tendency of the one, as compared with the other, to produce a greater amount of pleasure to a greater number of persons.

"The ability, however, to compare a larger sum of pleasure with a smaller in the sense explained—as we might compare a longer time with a shorter—is quite a different thing from ability to conceive a greatest possible sum of pleasures, or to attach any meaning to that phrase. It seems, indeed, to be intrinsically as unmeaning as it would be to speak of a greatest possible quantity of time or space. The sum of pleasures plainly admits of indefinite increase, with the continued existence of sentient beings capable of pleasure. It is greater to-day than it was yesterday, and, unless it has suddenly come to pass that experiences of pain outnumber experiences of pleasure, it will be greater to-morrow than it is to-day; but it will never be complete while sentient beings exist. To say that ultimate good is a greatest possible sum of pleasures, strictly taken, is to say that it is an end which for ever recedes; which is not only unattainable but from the nature of the case can never be more nearly approached; and such an end clearly cannot serve the purpose of a criterion, by enabling us to distinguish actions which bring men nearer to it from those that do not. Are we then, since the notion of a greatest possible sum of pleasures is thus unavailable, to understand that in applying the Utilitarian criterion we merely approve one action in comparison with another, as tending to yield more pleasure to more beings capable of pleasure, without reference to a *Summum Bonum* or ideal of a perfect state of existence at all? But without such reference is there any meaning in approval or disapproval at all? It is intelligible that without such reference the larger sum of pleasures should be desired as against the less; on supposition of benevolent impulses, it is intelligible that

the larger sum should be desired by a man for others as well as for himself. But the desire is one thing, the approval of it—the judgment ‘in a calm hour’ that the desire of the action moved by it is reasonable—is quite another thing. Without some ideal—however indeterminate—of a best state of existence, with the attainment of which the approved motive or action may be deemed compatible, the approval of it would seem impossible. Utilitarians have therefore to consider whether they can employ a criterion of action, as they do employ it, without some idea of ultimate good; and, since a greatest possible sum of pleasures is a phrase to which no idea really corresponds, what is the idea which really actuates them in the employment of their criterion” (*Prolegomena to Ethics*, §§ 358, 359).

(2) So Prof. Mackenzie: “*Pleasures cannot be Summed*. It follows from this that there cannot be any *calculus* of pleasures—*i.e.*, that the values of pleasures cannot be quantitatively estimated. For there can be no quantitative estimate of things that are not homogeneous. But, indeed, even apart from this consideration, there seems to be a certain confusion in the Hedonistic idea that we ought to aim at a greatest sum of pleasures. If pleasure is the one thing that is desirable, it is clear that a sum of pleasures cannot be desirable; for a sum of pleasures is not pleasure. We are apt to think that a sum of pleasures is pleasure, just as a sum of numbers is a number. But this is evidently not the case. A sum of pleasures is not pleasure, any more than a sum of men is a man. For pleasures, like men, cannot be added to one another. Consequently, if pleasure is the only thing that is desirable, a sum of pleasures cannot possibly be desirable. If the Hedonistic view were to be adopted, we ought always to desire the greatest pleasure—*i.e.* we ought to aim at producing the most intense feeling of pleasure that it is possible to reach in some one’s consciousness. This would be the highest aim. A sum of smaller pleasures in a number of different people’s consciousnesses, could not be preferable to this; because a sum of pleasures is not pleasure at all. The reason why this does not appear to be the case, is that we habitually think of the desirable thing for man not as a feeling of pleasure but as a continuous state of happiness. But a continuous state of happiness is not a mere feeling of pleasure. It has a certain objective content. Now if we regard this content as the desirable thing, we do not regard the feeling of pleasure as the one thing that is desirable; *i.e.* we abandon Hedonism” (*Manual of Ethics*,¹ pp. 112-113).

¹ Cf. Prof. Mackenzie’s *Social Philosophy*, pp. 222-227.

For purposes of criticism it will be convenient to break up the positions of my opponents into three assertions, all of which are made by Prof. Mackenzie but of which the last might possibly be maintained without the second, or the last two without the first. I begin, that is to say, with the more extreme position and then go on to the more moderate forms of the doctrine which I am criticising. I may say at once that it is the first two which I am chiefly concerned to deny: the third seems to me to raise a more subtle and debatable question, and (while I am prepared to defend my thesis on this point) I attach little importance to it, and would particularly insist that failure to establish my position thereon should not be held in any way to invalidate my argument in relation to the other two. The three positions which I dispute are these:—

- (1) That a sum of pleasures is not a possible object of desire.
- (2) That while the proposition *this pleasure is greater or more pleasant than that* has a meaning, the judgment is not quantitative.
- (3) That even if one pleasure or sum of pleasures can be said to be greater in amount than another, numerical values cannot, with any meaning, be assigned to two pleasures or sums of pleasure: so that there can never be any meaning in the assertion "this pleasure is twice as great as that".

I may add that for the present I am dealing with the comparison of pleasures of the same kind or quality. Afterwards I shall have something to say as to the comparison of pleasures which "differ in kind". Meanwhile, the fact that I am confining myself to pleasures of the same kind may perhaps be my excuse if I take my illustrations for the most part from pleasures of a low type, such as those of eating and drinking. I do so simply because what I contend for is most clearly seen in the case of such pleasures. I make this remark to deprecate the wrath of critics who, while apparently not averse to a good dinner, seem to wish it to be understood that the pleasantness of the meal is to them a contemptible—not to say a regrettable—accident involved in the pursuit of some higher end, the nature of which they never seem able to indicate with any precision. I need hardly say that I have no desire to emphasise the importance of the element contributed to happiness by those pleasures of eating and drinking to which the actual usages of the most refined societies give so unfortunate and indefensible a prominence.

I. Firstly then it is asserted that a sum of pleasures is not a possible object of desire.

This position would appear to be maintained upon one of two possible grounds :—

(a) It may be regarded as a corollary of the still more paradoxical doctrine that we never desire pleasure at all. This may mean that we never desire *a* pleasure, or that we never desire pleasure in general but always a particular pleasure. Prof. Mackenzie would seem to deny the possibility of desiring either *a* pleasure or pleasure in general.

What lies at the bottom of these assertions seems to be the undeniable fact that it is impossible to *enjoy* pleasure in general or a pleasure taken apart from everything else. What we enjoy is always a particular content—a pleasant sound, a pleasant sensation, a pleasant activity, a pleasant idea. A man whose consciousness was at any single minute full of nothing but pleasure would be an impossible variety of lunatic : for he would have to admit that he was pleased at just nothing at all. Pleasure apart from the pleasant something is of course a pure abstraction. When a man is said to desire pleasure, it is meant undoubtedly that he desires pleasant things, and further that he desires them simply because they are pleasant. Is not this a possible state of mind ? It would seem that there are those who would be prepared to deny even this—who would say that even a particular pleasure, *i.e.* (of course), a particular pleasant content is not a possible object of desire. Such a doctrine claims the high authority of the present Master of Balliol :—

“ Further, when the desire of pleasure thus arises, it is in us combined with a consciousness for which pleasure cannot be the sole or the ultimate end, a consciousness of which, as universal, pleasure is not an adequate end. This may be shown in various ways, the most obvious of which is to point out that pleasure must be had in some object for which there is a desire independently of the pleasure it brings ” (*The Critical Philosophy of Kant*, ii., p. 229).

Now I should fully admit that many—probably most—of our desires are not desires for pleasure but “ disinterested desires ” or “ desires for objects,” and that in all such cases the satisfaction of the desire gives pleasure because the object has been desired ; it is not desired, or at all events it is not desired solely, because it is calculated that the attainment of the given object will bring with it pleasure, and more pleasure than could be attained by the pursuit of any other object then within reach. As to what is commonly

known as the "hysteron-proteron of the hedonistic psychology" I have nothing to add to what has been urged by a host of writers among whom it will be enough to mention Bishop Butler, Prof. T. H. Green and Prof. Sidgwick. But the question before us is not whether other things can be desired beside pleasures, but whether pleasures are or are not capable of being desired at all. Certainly I do not believe that an angry man desires vengeance because he has calculated—from his own experience or the recorded experience of others—that the pleasures of vengeance are the sweetest. Certainly there are cases where a man gratifies his anger or his desire of vengeance with the certain knowledge that his act will entail pains which no impartial calculation of pleasures could possibly conclude to be outweighed by the pleasure of satisfied anger or revenge. (We are obliged to use the language of common life, though of course upon the assumptions of the hedonistic psychology there could not really be such a thing as anger or passion of any kind.) Unquestionably there are cases where the uplifted arm would not be stayed by the most demonstrated certainty of the greatest sum of pleasures that earth has to offer. But is all this equally true of cases where a man desires to eat or drink something which experience has shown to be pleasant? The contention we are examining would seem to involve the assertion that, when a man who is not thirsty or in quest of health drinks port, he is impelled by a desire of port—port as such, port for port's sake. The niceness of the port is, it would seem to be hinted, a quite irrelevant circumstance. What he wants is port because it is port, not port because it is nice. If that were so, it would seem that the uplifted glass would not be put down even if some fellow-reveller warns the drinker, "Don't drink this, it is beastly". If the desire of port were based upon some antecedent desire other than desire for the pleasure of port drinking, it would seem that the warning must necessarily pass unheeded. It may possibly be urged that what the man wants is both port and nice port: but that of course is to admit the opponent's case; the desire for pleasant sensation is one of his desires: he does desire pleasant sensation just because it is pleasant, whatever he desires or does not desire besides.

There is another way of meeting the case. The position in question when turned from a negative into a positive form would seem to amount to this: pleasure is always the result of the satisfaction of some desire or some want other than the desire of the pleasure. That most of our highest desires and some of our worst ones are of this character has already

been admitted, though I believe that the "disinterestedness" of the so-called "disinterested desires" is a question of degree: in many cases a really disinterested desire is greatly stimulated by the experienced pleasure of satisfaction. But, however this may be, I fully admit that most of our pleasures are conditioned by the presence of some desire which cannot be described as a desire for pleasure, or by some want or appetite of a kind which it is better perhaps to distinguish from the more rational class of "disinterested desires". There is a pleasure in getting warm when I am cold, in eating when I am hungry and so on. But are all pleasures of sensation of this kind? Such a contention seems to be opposed to the most familiar experience. I certainly often rise from my chair and stand before the fire, though I am not in the least cold, simply because experience has shown me that the practice is attended with pleasure. The continental stove may more than satisfy our desire of warmth, but Englishmen persist nevertheless in preferring their uneconomical open fires. The medical profession would be ruined if there were no pleasure in eating after hunger is satisfied or if such pleasure could not become the object of desire. Moreover, the pleasure is in many cases quite independent of any previous desire at all—whether for that pleasure or for anything else. Where the pleasure arises from the satisfaction of desire, the pleasure cannot be felt when the desire is absent. If knowledge is forced on those who have no desire for knowledge, its attainment is often found by no means conducive to pleasure. But the fanatical teetotaler's appreciation of champagne might be by no means lessened by the fact that he had drunk it under the impression that it was the lemonade for which he had craved. That the pleasures of smell are independent of previous desire attracted the especial notice of Plato. And while this independence of previous desire is characteristic of certain kinds of mere sensation, it is not limited to sensual pleasures. It is especially, I think, characteristic of the aesthetic pleasures. My appreciation of a landscape or a picture is in no way diminished because it comes in my way at a moment when I am thinking of something quite different. And if it be said that it appeals to me only because it satisfies a permanent desire for the beautiful which is capable of being aroused by the presentation of that which will satisfy it, one may ask, "How in the first instance is the desire of beauty aroused?" Is it normally the case that people are led to the search for beauty by a craving for what they have never experienced—as many both of the highest desires and of the lowest appetites do

undoubtedly exist before they have received any satisfaction at all? Is it not rather some new, some unsought for, some wholly unanticipated experience of the pleasantness of beholding beautiful things which first rouses the desire to see more beautiful things?

I cannot help thinking that few even of those who deny the possibility of a "sum of pleasures" will agree with Prof. Mackenzie and Dr. Caird in holding that even particular pleasures cannot be the object of desire. But then it may be said: "Yes, a pleasure may be desired, but not pleasure—a particular pleasure but not pleasure in general". I have already admitted that we can never desire to enjoy pleasure alone; the pleasure must always come from some feeling, thought, or volition. So obvious a truism has, so far as I am aware, never been denied. But need we always set our heart upon the enjoyment of some particular pleasant thing? There is something in common between all the things which give us pleasure: and that something is surely capable of being made the object of pursuit. When a boy begins to smoke, he is certainly not influenced by the desire of the characteristic smoker's pleasure, which he has never enjoyed and will not enjoy, very probably, for some time to come. There can be no image before his mind of a definite pleasant content; he does not know what the smoker's pleasure is, but he knows what pleasure is in general, and he knows that he likes all kinds of it which he has ever experienced. And, when he has gathered from the relation of credible witnesses that smoking is a source of pleasure, that is enough to set him in pursuit of it. If a booth were set up in a fair with the announcement "Pleasure here, 6d.", it is possible that it would not attract a large number of sixpences because there might be doubts as to the probabilities of the promised article being really supplied; but it does seem to me a strange position to deny the psychological possibility of some one individual paying his sixpence, not (as it is very likely some would do) for the pleasure of satisfying curiosity but with the definite expectation of getting a fair sixpennyworth of enjoyment, and a broad-minded indifference as to the particular species supplied—so long of course as it was a pleasure to him.

I feel some diffidence in attempting a solemn argument in defence of a thesis which (with all respect for the eminent persons who deny it) seems to me so obviously true; and I confess I find it difficult to understand what exactly it is that it is really meant to be denied when it is said that pleasure cannot be an object of desire. Is it the obvious fact that what we each care about is not all pleasure equally, but

the particular pleasures which appeal to us? That is quite true, but then of course that which gives *me* no pleasure will not satisfy *my* desire of pleasure; nor shall I be much influenced by a desire for the pleasures which, though they *are* pleasant I care little about or which cannot be attained without sacrificing objects about which I care more than for such pleasures—perhaps more than for any pleasure small or great. Or is it implied that, though I do desire all pleasant things which really are pleasant to me, I do not desire them in proportion to their pleasantness? I agree, but that is only to say that I desire other things besides pleasure, and moreover that (speaking generally) the pleasures best worth having spring from the satisfaction of desires other than the desire for pleasure. All that has been admitted. What I contend for is that it is possible for a man to desire—and that all or almost all men do desire—pleasant things simply because they are pleasant, and that, *ceteris paribus* (where no difference of quality enters into the consideration and where no other desire would be thwarted) they desire the pleasanter things more than those that are less pleasant. That is what I understand to be meant by the assertion that pleasure (and not merely particular pleasures) is a possible object of desire.

There is one more line of argument which I would briefly suggest. Will those who deny that we desire pleasure, maintain that we have no aversion to pain? Here it can be hardly contended that it is merely certain particular psychical states—which merely happen to be painful—which inspire aversion, or that it is not the pain as such that we try to avoid, but merely the frustration of some other desire, of which pain is a mere accidental accompaniment. It is, of course, often the case that pain is the symptom of something organically wrong, and again that mental pains do largely result from the frustration of some desire. But there are many conditions of body to which we should have no objection for any other reason than that they happen to be painful. Who would care about being told by a physiologist that certain thrills are coursing down his nerves if they did not reveal themselves in painful sensation: or that there was caries in his tooth if he could be sure that the tooth would never become either painful or less useful? If you will insist on abstracting the content of pain from the pain itself, it is surely the pain that we avoid, not the content. We avoid pains, the content of which we know nothing about. We do not think it necessary to try new pains which we cannot without experience even picture to the imagination, under

the expectation that, though other pains are to be avoided, it might turn out that this pain was rather desirable than otherwise. If we know that the psychical state produced by such and such a bodily affection is painful, that is quite enough for us. Unless they suppose the pain to be a means to something other than itself or an inseparable element in some other good, all rational men avoid it: and it will hardly be denied that they avoid the severer pains more than the less severe. All pains are to them an object of aversion, and objects of aversion in proportion to their painfulness. That is what is meant by saying that pain as such is an object of aversion. I do not know that any one who admits that pain is an object of aversion but still denies that pleasure is a possible object of desire can be convicted of any actual logical inconsistency: but the position is, to say the least of it, a singular one.

(b) But as I have already indicated, there are writers whose denial that pleasures can be summed or that a sum of pleasures can be desired does not carry with it the assertion either that pleasures are not possible objects of desire or even that pleasure in general may not become the object of pursuit. Their objection to a summation of pleasures rests upon other grounds; and seems for the most part (so far as I can gather) to be based upon the very simple fact that we cannot enjoy a sum of pleasures all at once—that a sum of pleasures is not capable of existing altogether at a given moment of time. Perhaps the best way of dealing with this objection will be to point out that the contention is as fatal to the existence of a desire for pleasure or even for one single definite pleasure as to the desire for a sum of pleasures. The briefest pleasure occupies a sensible time: and there is no time that cannot conceivably be subdivided into two halves. If, therefore, I cannot desire anything which I cannot have all at once, I could not desire either pleasant consciousness in general or any particular state of consciousness which is pleasant. The argument in fact goes further than this: it would prove not merely that pleasure cannot be desired, but that there can be no such thing as pleasure, since an indivisible point of pleasure could not be felt at all and therefore would not be pleasure. If so, of course, *cadit quæstio*. But I must ask to be excused from attempting the task of proving to the sceptic that the word pleasure signifies something which has real existence.¹

¹The reader may possibly demand at this point a definition, but to discuss definitions of pleasure would require a separate article. Most of the attempts at definitions fail so grotesquely that I feel little inclination to add to the number.

Assuming that there is such a thing as pleasure, it must be in time: and the time or the temporal state that is incapable of division is not time or in time at all. We have heard, of course, of the timeless self and its aspirations after a good which, though it is not in time is, it seems, to have a beginning and to be capable of being brought about by human acts which take place within the time series: but I am not aware that the supporters of the timeless self have ever assigned to it a timeless pleasure. At all events, if any such thing there be, it must be something quite different from what I—and, I am persuaded, the majority of my readers—understand by the word. As I understand a sum of pleasures, every pleasure is really a sum of pleasures: it is impossible to desire pleasure at all without desiring a sum of pleasures. What I understand by the assertion that I desire a sum of pleasures is, that I desire to enjoy pleasure as intense as possible and for as long as possible—that I regard two minutes' pleasure as more valuable than one minute of the same pleasure, and further that I regard the intensity of one pleasant moment as something which can be compared with the duration of another pleasant state, so that on comparing the duration and intensity of pleasure which will be secured by one course of conduct with the duration and intensity of pleasure which I may win by another, I can pronounce which on the whole appears to me to possess the greatest pleasure-value, and that (in so far as I am in pursuit of pleasure to the disregard of other considerations) I shall determine my action by that judgment. I do not see how I can put the matter more clearly, and therefore I proceed to the examination of the second of the theses which I have undertaken to deny.¹

¹ Prof. Green's argument against the idea that something which cannot be enjoyed all at once can be the *summum bonum* does not directly concern us here, but it seems to me open to much the same objections as have been made against the denial that a sum of pleasures is a possible object of desire. His argument seems to amount to the assertion that a sum of pleasures cannot be made the object of pursuit because you can never reach it, while a greatest possible sum of pleasures is a contradiction in terms, because when you have enjoyed any given amount of pleasure, it is always still possible to desire more. I should myself be prepared to contend that any other view of the ethical end is liable to the same objection, since any good for man must be in time, and can never be summed once for all as a *κτῆμα ἐσ ἀεὶ*; but I am not arguing that a sum of pleasures is the true ethical end, but only that it is an intelligible object of pursuit. A greatest possible sum of pleasures means that as much pleasure should be got into a given time as possible and that the time in which we are enjoying pleasure should be as long as possible. Nobody, I take it, has ever maintained the possibility of arriving at a sum of

II. It is asserted that whereas the proposition "this pleasure is greater than that" has a meaning, the judgment is not quantitative.

The idea that degree involves quantity is pronounced by Prof. Mackenzie a crude notion;¹ but it is a crude notion which has commended itself (unless I greatly misunderstand them) to Kant, to Mr. Bosanquet (*Logic*, i., p. 118), and on the whole to Mr. Bradley. I do not propose to discuss the matter more in detail as a matter of pure Logic, but will simply refer to Mr. Bradley's very subtle paper on the question: "What do we mean by the intensity of psychical states?" in *MIND*, January, 1895. I do not underrate the difficulty, insisted upon by Mr. Bradley with his usual penetration, of saying exactly what it is that there is more of in one psychical state—a state of pleasure or a state of heat—than in another. But Mr. Bradley, though his discussion is mainly aporetic, seems to be indisposed to deny that, however this question be answered, the judgment is quantitative (*cf. Ethical Studies*, p. 107). And I find it difficult to treat seriously the assertion to the contrary. We certainly say: "This is *more* pleasant than that". The position that the word *more* does not involve the idea of quantity is so startling that I must excuse myself from further discussion of it until it be developed in more detail than has been the case.

Whatever be thought of the logical doctrine that degree does not involve quantity, it is enough for my present purpose if it be admitted that one whole state of consciousness of a certain character is pronounced more pleasant than another, provided it be conceded also: (a) that the total pleasure in each case is made up of a number of successive moments; (b) that a certain degree of intensity is actually judged to be the equivalent of—and may influence desire as the equivalent of—a certain degree of duration: in other words, that a man in pursuit of pleasure may choose a less pleasure for a longer time rather than an intenser pleasure for a shorter time; (c) that a whole pleasant state may be analysed into various distinguishable elements.

The first two of these propositions can hardly, as it seems

pleasures in any other sense. The greater durability of some other sources of satisfaction than others is no doubt an important reason for the higher value we attribute to them, but the consciousness enjoying even the most spiritual good must be in time; the enjoyment of it can never be so far exhausted that we can say that an addition to it would be no addition to the good hitherto enjoyed.

¹ *Social Philosophy*, p. 215.

to me, be denied without going the length of saying that the duration of a pleasure, if it only be intense enough, is a matter of absolute indifference to us. And Prof. Mackenzie, in a moment of metaphysical exaltation, really does seem prepared to go to this amazing length. "A moment of blessedness," he tells us, "would be as good as an eternity, because the eternity would only go on repeating the blessedness and not increasing it."¹ I can only say that most of us would attach considerable value to what Prof. Mackenzie dismisses with a contemptuous "only". If we could attain this moment of blessedness, that is exactly what we should want—that it should be repeated as often as possible. There is no arguing about these matters of psychological experience and ethical judgment. I can only say that as a matter of fact I would not take the trouble to walk across the street to get a moment of blessedness if I were assured that the blessedness would occupy my consciousness only for $\frac{1}{100}$ of a second. I will add once more a reminder—too often forgotten in the polemics of anti-hedonists—of the parallel case of pain. Prof. James has said (I quote from memory) that the utmost degree of torture of which human consciousness is capable would be a matter of supreme indifference to him if he could be assured that it would last only $\frac{1}{100}$ of a second. Would Prof. Mackenzie be prepared to say that if condemned to such a torture it would be a matter of indifference to him how long it went on?

If then duration of pleasure is desired as well as intensity of pleasure, will it be denied that, in choosing between two pleasures (*i.e.*, between the psychical consequences of alternative acts of choice) we do balance duration against intensity, and choose that which promises most pleasure on the whole—the discomforts of a four hours' passage on a good boat against the horrors of two hours on a bad one, or (if income be limited) the three hours of fierce delight (*plus* a certain amount of retrospective pleasure afterwards) which five shillings will buy at a theatre against the calmer but more prolonged enjoyment of a five-shilling book? This is all at bottom that is meant by the much-decried idea of a hedonistic calculus—all perhaps that it is absolutely necessary to contend for. But there is, as I have suggested, one point more—not perhaps absolutely essential to the idea, but usually implied in it, and it is this perhaps which is most apt to be denied by the more moderate of those who object to the expression "sum of pleasures"—and that is the

¹ *Social Philosophy*, p. 208.

notion that the total whole of pleasant consciousness is made up of distinguishable elements. I say distinguishable, *i.e.*, logically distinguishable, not capable of actual separation. My consciousness at any given moment is no doubt a whole which cannot be separated into parts like a material object, but it is possible to distinguish in this total psychosis many different elements. Sometimes the elements are capable of being distinguished even to the extent of retaining approximately when in combination the pleasurableness or painfulness which they have when separate. Thus I may be conscious at one and the same time of a pain in my toe, another in my head, and a pleasant interest in the story that I am reading. At other times, and this is generally the case, no doubt, where no definite local pain enters into consciousness, the elements seem so far fused together that it is only by a considerable effort of reflexion (aided by memories which enable me to apply the method of difference or of concomitant variations) that I can distinguish how much of my total pleasant state is due to the different elements. That is the case, for instance, when I ask myself how much of the general sense of exhilaration which I have experienced at a pleasant party was due to the dinner, how much to the champagne, how much to the company; or when I attempt to say how much of my depression is due to biliousness and how much to the disappointment or annoyance on which at such seasons I am apt to brood.

And yet, in spite of all the difficulties of such discrimination, we do make such distinctions in reflecting upon past pleasures, and we use the result of such experiences in guiding our choice in the future. We have two invitations for the same night. We say to ourselves: "True A's dinner will be less apolautic than B's, but I like B's indifferent champagne better than A's superior port and claret, and the conversation will be much better. Therefore to B's I will go, and A's invitation I will decline." It is true of course—and this seems to be the only serious difficulty in treating such cases as a summation of pleasures—that the hedonistic value of a pleasure in combination with others may be something quite different from its value when taken by itself (or rather, since we never do enjoy an assignable pleasure absolutely "by itself") when experienced in a different psychical setting or context. The dinner which helps us to enjoy the evening in pleasant company would simply bore the man who is not a gourmand, if consumed in solitude or in the company of dull persons. The values that we sum are altered by the summing or rather by the combination

And this objection may be treated as fatal to the whole idea of a "sum of pleasures". But I reply that it is not the values that they have in separation but the values that they have as elements in the whole that we are summing; though our experience of them in separation or in other surroundings may be more or less of a help in estimating how much they will contribute to our enjoyment of the total consciousness into which they enter. It is true that my enjoyment of a certain man's company may be either greater or less when I meet him in a Swiss hotel than when I meet him in a college common room: but that does not prevent my experience of his society in Oxford leading me to think that his presence will be a material addition to my enjoyment at such and such a Swiss hotel and determining me to go there in preference to one which I should otherwise have decidedly preferred. It is then undeniable (as it seems to me) that we can distinguish elements in a whole of pleasant consciousness. The society of my friend and the enjoyment of Alpine scenery may give me a combination of pleasure both greater and different in kind than I should derive from the two taken separately. But that does not prevent my putting together in my mind the probable enjoyment which I shall derive from the scenery and the probable enjoyment which I shall derive from the company of my friend, and recognising that the two elements go to form a whole of pleasure which is greater than either. If on comparing any two whole psychoses I find that one would be preferable to the other but would become less desirable when a certain assignable element is taken away, there is (as it appears to me) a real meaning in saying that such a whole of pleasure is a sum of pleasures. No doubt, as the logicians remind us, the whole is something more than the sum of its parts; but the expression "whole" and "part" have a real meaning for all that: the whole *is* the sum of its parts, though it is something more. Or to take a more concrete and material parallel, I may judge how many pailfuls of water it will take to fill a cistern by adding together the capacity of each pail, though I must not forget to allow for the considerable quantity of water which will be lost in the process of adding them together, or the quantity that will be added if it is raining.

III. There remains for discussion our third and last thesis: that, though one pleasure may be greater than another, it can never be described as twice as great—that degrees of pleasure cannot be numerically expressed.

The question raised by this assertion is to my mind much more difficult and debatable than any that we have so far discussed, and the assertion that pleasures do admit of arithmetical measurement is in no way necessary to justify us in talking about a sum of pleasure or a hedonistic calculus. I hasten to add that as a general rule our judgments about pleasure are expressed in the form of "more" or "less," not of so many times more or less. It is only in the simplest cases that we can attempt to compare pleasures with so much nicety; and, as such judgments are of no practical use, we do not commonly make them. Still, I am prepared to maintain that the judgment "this pleasure is twice as great as that" is not absolutely without meaning. In the first place, it appears to me self-evident that the value of a pleasure is dependent upon its duration, and that two minutes of a given pleasure may be fairly said to be twice as pleasant as one minute of it—if it is really the same pleasure and is not diminished by satiety. Further, believing that we are in the habit of equating the intensity of pleasure with a certain duration of it, I hold that it is possible to indicate our sense of the comparative intensity of two pleasures by expressing them (so to speak) in terms of duration. If it is a matter of indifference to me whether I enjoy one minute of one pleasure or two minutes of another, I may reasonably be said to regard the one pleasure as twice as pleasant as the other. Even in far more complicated cases—even in estimating the extent to which various elements contribute to a total state of continuous pleasure—it does not seem to be meaningless to express one's sense of the comparative value of the different elements by assigning to them numerical values. In comparing one friend's dinners with another's there would be nothing unmeaning—though for many practical reasons we rather avoid such exact mensuration of pleasures—in assigning so many marks to the dinner, so many to the wine, so many to the conversation with (if you like) a few plus or minus marks for the arrangement of the table, the post-prandial music and so on. We might express our sense of the comparative enjoyment afforded by the two entertainments and the extent to which each element contributes to the total, by assigning marks to each such element and then adding them together. I admit that such numerical expressions would in general be wholly useless, but it would correctly express the sort of way in which we do make up our minds between alternative courses by a mental or ideal summation of the pleasure which we expect to derive from them. When we have

decided on which side the balance lies, we usually stop, because when we have determined that we are going to prefer A's entertainment to B's, no purpose is served by attempting to estimate or to express the degree of our preference. As a general rule there would be no use in such an attempt, but it is possible with a little ingenuity to imagine circumstances in which it *would* be of use. If a prize were offered to the host who would give us most pleasure in the course of six entertainments with or without a certain limit to the expense, the judges in such a competition would, I imagine, have to record their impressions of each entertainment in some such way—very much as a man who is judging prize poems might quite intelligibly (though I do not recommend the method) arrive at his decision by assigning so many marks for language, so many for ideas, so many for rhythm, and so on. To avoid an irrelevant objection I admit at once that it is very rarely—and only in regard to the choice of mere amusements and not always then—that we do make our conduct depend upon such purely hedonistic calculations, unmodified by other considerations. I may add that, if there seems to be something rather tasteless and repellent about the analysis of these hedonistic calculations for ourselves, we have constantly to make them for others. A man who has determined to provide a school treat for a number of children, and to devote thereto a definite sum of money, aims, I suppose, at producing a maximum of pleasure; though I have heard a Moral Philosopher of some repute gravely express a doubt as to whether the good-will could ever express itself by giving pleasure to others. The giver of such a treat knows that, if he provides fireworks, he must cut down the prizes for races, that if he gives the children a better class of cake he will not be able to give them sweets too, and so on. If it helped him (and it is quite possible that it would help an old schoolmaster) to express the value of the pleasure which each shilling expended in different ways would buy by assigning marks to each item and then totting them up, I do not see that there would be anything essentially unmeaning or irrational about his procedure. No doubt in such cases our estimates are exceedingly rough, but that does not make it actually impossible to express our judgment in numbers. It is far easier to say that one flock of sheep is bigger than another than to say by how many it is bigger, but that does not alter the fact that if one flock is bigger than another, it is because it contains more sheep.

Our estimate is none the less quantitative because it is vague.¹

But I have not yet done justice to Prof. Mackenzie's strongest argument. He tells us that the proposition "this is twice as pleasant as that," is as unmeaning as the judgment "this is twice as hot as that". Now I admit fully that in the case of sensible heat or of any other sensations which admit of being arranged in a scale, quantitative measurement is essentially impossible. But I contend that pleasure does not belong to this category at all, and I will try to show why. The reason why it is impossible to express degrees of sensible heat quantitatively is that there is no equivalence between the difference between any two degrees of sensible heat and the difference between any two other degrees. Let the line A Z represent the various

A Z represent the various possible degrees of sensible heat ranging from a coldest A to a hottest Z (of course I do not attempt to answer the physiological question whether there is a minimum or maximum of possible sensible heat). The reason why I cannot mark off this line into degrees to which I might assign numbers like the numbers which express the degrees of physical heat on a thermometer is that I cannot say that D is as much hotter than C as Y is hotter than X. But in comparing pleasures I have no difficulty in doing this. If I would as soon have pleasure X raised to Y as pleasure C (lower down on the scale) raised to D, then I can intelligibly say that the difference between X and Y is equivalent to the difference between C and D. To take a concrete case: if a bank clerk is offered an addition of £50 a year to his salary or a diminution of his day's work by half an hour, and were, after consideration, conducted wholly on hedonistic grounds, to say "I really don't care," we should be entitled to say that the pleasures which he would obtain by the expenditure of £50—made up of course by an addition of the pleasures derived from so much better eating and drinking, so many more nights at the theatre, or from so many more books and a more enjoyable summer holiday—was the equivalent of the enjoyment which he would derive from 280 half-hours' leisure. It may be said that after all we have here only quantitative equality, not numerically defined inequality. But then I should proceed to argue that the enjoyment of

¹ Mr. Bosanquet has attempted to show that such judgment *may* be only qualitative, but he is thinking of the unreflecting and unanalysed judgments of savages, and even so he is not convincing.

say 280 half-hours' leisure is made up of the pleasure derivable from the repetition 280 times of the enjoyment derivable from one half-hour's leisure. The amount of pleasure derived from an extra half-hour would of course in fact vary on different days; but he would expect a certain average of enjoyment on each day: and it would therefore be quite intelligible to say that the pleasure derived from £50 of additional income would be exactly 280 times the pleasure derivable on an average from half an hour's additional leisure. Once again I must admit that I feel there is something rather childish in such calculations which are never made in practice—any more than we attempt to say by how many grains one heap of sand is bigger than another. Nevertheless, I maintain that in such cases the judgment is quantitative and might (so long as we confine ourselves to such simple cases) intelligibly be reduced to numbers. The fact that we can have a very decided and well-grounded opinion that one total is larger than the other total, while any attempt to express our comparative estimate by numbers would be the wildest and most unprofitable guess-work, does not affect the question. The difficulties in the way of any exact mensuration of pleasures seems to me to be practical rather than theoretical. Some of these difficulties are too obvious to mention, but there is one which it may be well to notice, because it is, I believe, at the bottom of many people's objection to the whole idea of a sum of pleasures.

It is assumed that we cannot sum pleasure unless we suppose pleasure to be made up of a number of isolated pleasures, as though quantity were necessarily discrete. But space and time and everything that occupies space and everything that occupies time, possess quantity, and yet space is not made up of points or time of moments. Pleasure, like time and space, is a continuum. In measuring things in space and time we have recourse to arbitrarily chosen units. And in so far as we are taking account of the duration of pleasures merely, the units of time are applicable also to the case of pleasures; there is nothing essentially unmeaning in applying these units to the measurement of pleasures, and saying that a pleasure that lasts an hour is four times as great as one that lasts only for fifteen minutes. But such calculations are of little use to us, because as a rule we cannot assume that the same feelings, emotions, occupations or what not will continue to produce pleasure at the same rate for long periods which they produce for short periods. What interests us for five minutes would bore us in an hour; and conversely things which would interest us

if we had an hour to give to them would awaken no interest in five minutes. There are books which we do not care to read for less than an hour and others which we should not care to read for so long. Duration, therefore, though an important element in the mensuration of pleasures, does not often practically help us much to an accurate measurement, even where we are dealing with the same external source of enjoyment: and, when we turn to the intensity of pleasures, the want of any satisfactory unit of pleasure is still more obvious. But the difficulty of saying how many units of pleasure there are in a given lot or sum of pleasure does not prevent our arriving to a mental estimate of its quantity and comparing it with the quantity of other pleasures—just as an ignorant savage choosing burdens to carry across the Sahara may have very clear ideas of magnitude and weight without any knowledge of inches or pounds.

That we make such comparisons and pronounce which of two stretches of consciousness is the most pleasant on the whole, seems to be admitted by some who still object to the term "sum of pleasures". Such persons seem to mean that our estimate of the total pleasure that we shall get from one course of action as compared with what we shall get from another is arrived at without any previous mental addition or summing of pleasures. That we do not, as a rule, consciously divide up our prospective pleasure into units, and thus do a sum in arithmetic, I have already admitted. But how we can arrive at an estimate of the amount of a whole without putting together a number of parts is to me unintelligible. When I am deciding in which of two ways I shall spend a day or a month devoted to recreation, I certainly do go over in imagination the various hours of the day or the probable occupations of the various days in a month, as it will be spent in each way, and make a rapid estimate (picturable in imagination though not actually reduced to terms of any pleasure-unit) of the amount of pleasure which I shall get into each portion of it (though I admit that the portions are not necessarily marked off from each other by exact time-measurements), and then think which comes to the most. If any one tells me he is not conscious of doing so, I should be quite prepared to admit that he really makes such calculations in a less conscious and deliberate way than I am at times conscious of doing myself. Indeed, I believe that the disputes which have arisen on this subject are very largely traceable to differences between the mental habit of individuals; but the idea of a quantity—a quantity occupying time—which does not consist of parts and is not made up of the

addition of parts remains to me an unintelligible paradox. If it consists of parts, the parts must surely all be looked at before we can pronounce upon the pleasurableness of the whole. Whether we can take in the whole quantity of pleasure by (as it were) a single mental glance, or whether we mentally run over the parts in succession, is a mere accidental difference of psychological habit. I am no less summing the number of sheep in a flock when (as may be done by an experienced shepherd) I pronounce how many they are by a look at the whole flock together than when I have laboriously to count them. Further, I am directly conscious that in estimating the total of pleasure I take into account the intensity of successive time-reaches as well as their duration; and this process can hardly be performed without thinking of the successive portions of time. If the whole time is likely to be equally pleasant, I may no doubt proceed at once to multiply (so to speak) intensity by duration: if the successive portions are likely to be very variable, I must surely think how much pleasure or pain there will be in each before I can say how much there will be in the whole. If such a process of estimating a total quantity after estimating the constituent quantities is not to be called addition and subtraction, I should be grateful to any logician who will tell me more precisely what mental operation it is. At all events that is what I mean by summing pleasures. If anybody means the same thing but objects to the word, I can only say that I see no objection to it except the fact that it has been used by Hedonists, and that some people consider it necessary to object to everything which has been said by Hedonists: but the question of the word is of comparatively small importance. And if in the view of some of my readers I have not succeeded in hitting the exact point of their objection to the idea of a "sum of pleasures," I may be allowed to add that I have never yet met two persons who are exactly agreed as to the grounds of their anathema.

One more of these objections may, however, demand a moment's notice. To some the objection to the notion of a sum of pleasures seems based upon the alleged impossibility of adding one man's pleasure to another's. It appears to be denied that two people's pleasure is *more* than the like pleasure of one person. Of course it may be possible to find senses in which this might be the case. In the mind of those who make the objection, the summing of the pleasure of different persons seems to carry with it some suggestion that pleasure is a thing that can be actually separated from the consciousness of the person enjoying it, divided into lots,

and handed about from one person to another. If any one has fallen into such a confusion, I venture to submit that it is the people who object to the mental addition of different people's pleasure, and not the people who contend for its possibility. The objection seems, in fact, to be little more than a question of words. The question whether two people's pleasure is not twice the like pleasure in one person's consciousness must depend on the purpose for which the addition is to be used. The meaning which I attach to the assertion is that I regard a certain amount of pleasure in two persons as twice as important as the same amount in one; and *ceteris paribus* I regard it as a duty to promote more pleasure than less pleasure. If this last proposition is to be denied, we have arrived at an ultimate difference of ethical ideal: if it is admitted, I do not see how duty is to be fulfilled without mentally adding together, multiplying, the amount of pleasure by the number of persons enjoying that pleasure or (to avoid cavil) enjoying a like amount of pleasure. If this is admitted, where is the objection to the convenient phrase "a sum of pleasure"?

So far I have been dealing with the comparison of pleasures which are the same in kind—that is, as I understand it, in which the greater or less pleasurableness of the two pleasures is the only ground upon which we base our judgment as to their comparative preferability. Is the case altered when one pleasure is higher than another? It is impossible to answer the question without attempting to define what we mean by saying that one pleasure is higher than another. And here I must be allowed to be dogmatic, because I must be brief. I hold that, when we pronounce one pleasure higher than another, we mean that though both of them are pleasant—it may be equally pleasant—the one is more valuable than the other for some other reason than its pleasantness. What I prefer is really the superior moral or intellectual quality of the pleasant psychical state, not its superior pleasantness. If I compare them simply as pleasures, I make abstraction of all qualities in them except their pleasantness. And pleasure in the strict sense of the word—the abstract quality of pleasantness—can differ from pleasure only in quantity, extensive or intensive. Hence it appears that strictly speaking there is no difference in quality between pleasures considered simply as such, though there may be between pleasures in the popular sense of the word, *i.e.*, there may be difference in intrinsic value between two states of consciousness equally pleasant. The distinction would be conveniently expressed by saying: "Pleasure can be estimated only quantitatively,

but pleasures may differ in kind"; or, "Pleasures differ in kind, but not *qua* pleasures". Some philosophers who are not Hedonists may be prepared to deny that any distinction can be made between the value which things have as pleasure and the value which they have on other grounds, and to contend that an ethical judgment always refers simply to the ultimate value of a certain state of consciousness. Such a contention (which cannot be adequately discussed here) would seem either (1) to bring back Hedonism under another name, or (2) to get rid of the idea of pleasure altogether. I am quite clear that in my own mind I make a distinction between the pleasantness of things and their value. As I understand the word 'pleasure,' the less pleasant of two states of consciousness sometimes presents itself to me as the more valuable.

When it is said (as it is by some, though I cannot point to any published expression of that view) that pleasures differ in kind *qua* pleasures, I do not know what can be meant by the doctrine unless it be the undoubted and important fact that the pleasurableness of a total state of mind is inseparably bound up with the value that it has on other grounds. It is not a mere accident that various states of mind to which we attribute higher value than other states of mind on account of their intrinsic worth do happen to be also pleasant. When I say that the contemplation of beauty seems to be good as well as pleasant, while the sensation derived from eating turtle soup seems to me pleasant, but to possess a very low degree of goodness or ultimate value, I do not first form an estimate of the value which looking at the beautiful picture would have if it were not pleasant, and then add to it the additional value which it derives from being also pleasant. The pleasantness of the æsthetic gratification is an essential part of my conception of it. I do not know what beauty would be like if it were not a source of pleasure, or whether I should attribute any value to it at all if it were not essentially pleasant; and yet I am conscious that the pleasantness is not the sole source or measure of the value that I attach to it. All this seems to be perfectly true; and it goes to show that every comparison between very heterogeneous pleasures simply in respect of their pleasantness is a very difficult and delicate proceeding. Fortunately it is for the most part useless and unnecessary, but not wholly so. It is often exceedingly difficult to say how much of the value we attribute to some occupation springs from its pleasantness, and how much from our sense of the value which it has on other grounds; and yet that is what we must do when we

compare a higher and a lower pleasure simply as pleasures. And such comparisons, though difficult, can be made. I may say to myself in a certain mood: "I should get more pleasure from going to this farce than I should from going to that tragedy"; and yet I may say to myself: "The tragedy is the nobler and higher pleasure; therefore to the tragedy I will go". On the other hand, if I were thinking only of amusement, and felt that under the circumstances it was right that I should think of pure amusement rather than of culture and aesthetic gratification, I might say: "Though it is the lower pleasure, I will choose it". I do not think it can be denied that we do not unfrequently go through such a process—sometimes for ourselves, more often in choosing pleasures for others. We should prefer to take a child to this elevating and aesthetic performance rather than to that rather vulgar pantomime, provided he will get a fair amount, though it may be a less amount, of pure amusement out of the former. But will he? We want to satisfy ourselves of this before we decide against the pantomime. Life is full of such problems, and however much we may insist on the difficulties of such comparisons, they have to be made and are made.

It is thus possible, though it is difficult, to compare heterogeneous pleasures simply in point of pleasantness. It is unnecessary to insist further on the difficulty or to analyse its causes more elaborately. But one very important practical consideration may be pointed out. It is difficult and frequently undesirable to compare very heterogeneous alternative pleasures simply from the point of view of their quantitative intensity, because to do so is to put oneself into a state of mind unfavourable to a due appreciation of the higher kind of pleasure even as a pleasure. I may enjoy (say) a sermon by a great preacher and a light but amusing novel. The pleasure is a very different pleasure; but as both are pleasures, it must, I should contend, be possible to say which is the greater pleasure when there is any very considerable difference in the pleasantness. I am certainly conscious that I have derived more pleasure from some sermons than from some novelists. But if I propose to make the question whether I will go to church and hear the preacher or stay at home and read such and such a novel turn wholly on the question which will be most pleasant, if I deliberately put out of sight all the considerations other than love of pleasure which may draw me to the preacher's feet, I should be putting myself into a state of mind in which I should be very likely greatly to underestimate the amount of pleasure which I really should get, were I to throw aside the book and go to

church. Nay, more, supposing me to decide for church on these grounds, and supposing this voluntarily adopted mood to continue, I should be very likely to miss the pleasure, for the pleasure in this case consists largely in the gratification of other desires than the desire for pleasure or for such sources of pleasure as are common to the preacher and the novelist. These desires will *ex hypothesi* be in a state of repression, whereas I shall have stimulated my appetite for those pleasures which the novel would supply in greater abundance than the sermon. Considerations like these may show the inadvisability of frequently permitting ourselves to make these purely hedonistic comparisons between very heterogeneous sources of enjoyment, but they do not disprove the fact that the comparison can be, and in some cases must be, made.

The higher pleasure is, I have suggested, a pleasure to which we attribute value on other grounds than its mere pleasantness. The problem of the commensurability of pleasures has led us up to the more difficult and, ethically speaking, more important problem of the commensurability of goods. I have tried to show that it is possible to compare pleasures—no matter how heterogeneous—and to say which is pleasantest. But is it possible to compare heterogeneous goods—say, Virtue, Culture and Pleasure—and say which is *best*. It is possible, though it is not always right, to aim at a greatest attainable quantum of pleasure: is it possible to aim at the production of a greatest quantum of good? That such is a possible aim certainly seems to be implied by those who make the greatest good of society the criterion of conduct (and there are few Moralists of any school who have not used some such language), and yet refuse to interpret "good" in the hedonistic sense. Upon this larger problem I hope to offer some remarks in a future article; and till then, I must adjourn the question "What is the true place of the hedonistic calculus in a rational system of Ethics?"

IV.—ON MR. SHADWORTH HODGSON'S *METAPHYSIC OF EXPERIENCE.*

BY H. W. CARR.

WHATEVER view we take of the value of the particular philosophical doctrines of Mr. Shadsworth Hodgson, or of the result of his philosophy as a whole, nothing but admiration is possible for the magnificent work which he has now given us. The *Metaphysic of Experience* is the work of one who has devoted his life to philosophy and whose work is worthy of his devotion. No one can read these volumes without recognising, what we who have had the privilege of knowing the author have well known already, that philosophy is the one absorbing interest of his life. He has not come to philosophy to justify some preconceived theory in science or theology nor has he been guided in his work by any supposed interest, ethical, political or religious. The *Metaphysic of Experience* represents the continuous labour and systematic thought of the many years in which Mr. Hodgson has been associated with the Aristotelian Society, and the splendid series of Presidential Addresses delivered by him during fourteen successive years represent the growth and development of the work now completed. There is a particular advantage to all who would understand Mr. Hodgson's philosophy in possessing it in its complete form, for completeness is a special and most interesting characteristic of the work. We feel as we read that everything has been said that could be said and as well as the author could say it. The analysis is thorough and embraces the whole of experience from pre-scientific knowledge to religious faith. We may remain unconvinced by the argument or disagree with the conclusion, but the thoroughness of the analysis commands respect.

The problem of Philosophy as here expounded may be described as the reorganisation of experience for knowledge. The method of philosophy is subjective analysis of experience and this analysis must be direct and free from assumptions. The explicandum of philosophy is the world of ordinary

common sense in its widest application, including science and religion. The analysis begins with the moment of experience, makes explicit the reflective character of consciousness, passes in order the sensations and combinations of sensations and the inferences from them that give rise to the panorama of objective thought, examines the ultimate conceptions of science, the laws of conscious action and the conceptions of the unseen world and religion. The reconstructed world of philosophy is not different in its essential features from the unanalysed world of common-sense experience, of scientific and religious conceptions. The result of the analysis is not to transform these, still less to negate them, but to make explicit and orderly what in pre-philosophic thinking is assumed and confused.

The most characteristic part of Mr. Hodgson's work and that in which he has rendered the most eminent service to philosophy is in his destructive criticism of the concepts of cause, causality, causal agency, etc., and the substitution of the conception of Real Condition, a purely empirical notion in the place of Cause with its old scholastic associations. "The term *Cause* implicitly contains two unrealisable ideas, (1) that of a total production or creation of its effect, and (2) that of an originating agency which itself requires no accounting for, but may be taken as self-existent." These two unrealisable ideas give rise to that conception of the universe as a self-existent and creative First Cause and a dependent and created world, which still looms largely in popular philosophy. Mr. Hodgson has admirably exposed the contradiction contained in this conception. Real Condition on the other hand expresses the simple empirical fact of the causal relation between particular existents within the universe and it is free from all assumption as to the nature of that relation. With the concept of cause are swept away all theories of the Absolute which would regard it like the First Cause as standing, however conceived, outside and apart from the universe, conditioning it but itself unconditioned.

The chief distinction that Mr. Hodgson claims for his philosophy is that it is entirely free from assumptions. The main charge that he brings against systems of philosophy opposed to his or occupying a different standpoint is that they are based on assumptions. Now apart from the question whether Mr. Hodgson is successful in avoiding assumptions, this ideal of philosophy without assumptions gives a distinctive character to his work. Why must there be no assumption in philosophy? Because an assumption neces-

sarily impairs the proposition, the assumption admitted into the premisses is bound to reappear in the conclusion. But is it not at least equally true that without assumption philosophy is barren, the problem you set out to solve will remain unsolved at the end? It is the latent contradictions in ordinary thought that constitute the problems of philosophy, analysis cannot get rid of these contradictions, it makes them explicit, to attempt to solve them of necessity involves assumption. But what does philosophy without assumptions mean? Mr. Hodgson apparently holds the view that knowledge is based on immediate experience and in its nature partakes of the character of immediacy, is verifiable at every step by reference to immediacy, a reference made possible by the universal subjective aspect of experience, and that the means of this reference is the philosophic method of subjective analysis. Even allowing that immediate experience in its immediacy is knowledge, which I take to be Mr. Hodgson's meaning in his analysis of the moment of experience, yet at some stage comes inference. Is not an assumption latent in all inference? Is any progress in knowledge conceivable that does not involve assumption? The only consistent philosophy without assumptions is solipsism, and solipsism is the *reductio ad absurdum* of philosophy without assumptions.

What is meant by direct analysis of experience? It is based on the fundamental distinction between *nature* and *genesis*, between *what is?* and *how comes?* and it means that the question of genesis can be and must be postponed and subordinated to the question of nature. It means that it is possible to directly interrogate experience and to get a direct and immediate answer to the question of the nature of experience. Consequently Mr. Hodgson begins by analysing the moment of experience and claims that that analysis reveals the ultimate nature of the analysandum. The moment of experience is obtained immediately by making, so to speak, a cross section through the stream of consciousness. The nature of experience as revealed to analysis is direct and immediate. To know it is not to transcend it. Experience is not a whole, the nature of whose parts consists in their relation to the whole. Every moment of experience has an in itself nature that analysis can reveal. It is in this view of experience that Mr. Hodgson allies himself with the line of the English philosophers Locke, Berkeley and Hume, and dissociates himself from the line taken by Kant and his successors. The contrary view is that the nature of experience is not directly revealed by analysis of the content of

consciousness at any moment. Experience is a whole and the nature of a part can only be fully revealed in its relation to the whole. Apart from its relation to an ideal whole any reality the moment of experience may seem to possess is a pure abstraction. Mr. Hodgson's attitude towards this view of experience is plainly expressed and is best exemplified in his charge against Hegel. The Hegelian system rests, he tells us, on an assumption and that assumption is false. Hegel assumed that thought is agency. This charge is so characteristic and throws so much light on Mr. Hodgson's central conception that it is worth while to examine it carefully.

The criticism that the Hegelian System is vitiated by the assumption that thought is agency is from Mr. Hodgson's standpoint obvious and just, but from the Hegelian standpoint it is simply irrelevant. The difference is a fundamental difference of standpoint not an imagined failure on the part of Hegel to appreciate an obvious distinction. If Hegel has vitiated his system with an assumption it is a far larger and more important one than that thought is agency, it is not an assumption within experience to be corrected by observation but an assumption about the universe, not about the part but about the whole. It is the assumption of the ultimate rationality of the universe expressed in the saying: "the actual is rational and the rational is actual". What then is the distinction between thought and agency? In Mr. Hodgson's analysis it is clear and it is essential. Consciousness as a knowing, or experience *per se*, is mere process—content, consciousness as an existent is an object known, discerned by thought not produced by it, and as object known its existence implies that it is part of an order of real conditioning, and agency lies in the real conditions of the existent consciousness, not in the thought that thinks it. I can see no reason why any Hegelian is bound to find this account inconsistent with his theory. No one will, I think, deny that a Hegelian may hold the Newtonian theory of physical force, notwithstanding that Hegel himself thought it nonsense, or the physiological hypothesis in psychology. The crux of the problem lies deeper, it is the question, are we to regard agency as a true other to thought or is there an underlying identity? Agency with Mr. Hodgson is otherness to thought and herein lies the difference of standpoint. To the Hegelian knowledge is valid because beneath the distinction of knowledge and object of knowledge lies an identity. It is logical necessity not subjective analysis or scientific research that must justify or fail to justify the Hegelian assumption.

This difference of standpoint gives rise to an entire difference in the presentation of the problem of reality. In Mr. Hodgson's theory no difficulty about reality ever arises except from confusion. The word he tells us is used in four different senses: 1. Something simply in consciousness. 2. Something which has a definite place in perception or objective thought. 3. Something which has existence independently of whether it is perceived or unperceived, thought of or not thought of at any given time. 4. Something which has efficiency as a real condition. These four senses exhaust the meaning of reality and are ultimately reducible to two senses which correspond to the two aspects of experience. For the subjective aspect *esse* is *percipi* is universal and ultimate, for the objective aspect reality means efficiency as a real condition. Now do these two senses or these four senses exhaust the meaning of the term reality? If we accept this classification must we not add a further and ultimate sense of reality in which we mean that which is self-consistent and harmonious, that which has its ground of being within itself? Mr. Hodgson does not recognise this sense of reality and consequently the problem of reality as it presents itself to Mr. Bradley, for instance, in *Appearance and Reality* does not exist for him. The real universe for Mr. Hodgson is incomplete and he sees no difficulty in making incompleteness an ultimate characteristic of reality. Incompleteness is with him the distinctive attribute of infinity. The infinity of time means that the time continuum is necessarily incomplete at either end. The infinity of space means the absence of limit to its divisibility and extensibility. The infinity of the universe means the necessary incompleteness of the series of conditions and conditionates. And this incompleteness is not a defect either of knowledge or of being but a positive qualification inherent in the very nature as well as in our knowledge of these realities. It is this view of reality which appears to me to mark off Mr. Hodgson's position from that of the Hegelians. If incompleteness can be an attribute of reality the whole distinction between appearance and reality disappears with the criterion that reality cannot contradict itself. Such a view is to me unthinkable,—carried to a logical conclusion it must be destructive of the ideal of knowledge. The view that reality means self-consistency and harmony and conversely that the inconsistent and incomplete cannot be thought of as reality seems to me to lie as evidently at the basis of Mr. Hodgson's argument as it does at that of any transcendentalist. He may not believe in its attainability but it represents the

ideal of his philosophy none the less. "For in all reasoning, whether we are engaged in analysis or in construction by inference founded on analysis, we are compelled to push the process to its farthest limits, the ideal limits consisting in either case of something ultimate and in its own kind self-explanatory, demanding and indeed capable of no further questioning" (iv., 308). How then does Mr. Hodgson meet this requirement? By keeping distinct the two aspects of experience and the two senses of reality which respectively belong to them. For analysis, immediate experience is ultimate reality, for construction, reality is an inference. This inference is not an assumption if based on the immediate experience revealed by analysis.

Is then this definition of reality as self-consistency which, if I am interpreting rightly the sentence I have quoted, Mr. Hodgson himself acknowledges, a third sense ranking *pari passu* with the two senses, or if not in what relation does it stand to them? It appears to me that to speak of two senses of reality is a contradiction, for to be real in one sense only is not to be real at all. The qualification is absolutely destructive. Self-subsistency is the ordinary and the only meaning of reality. Unless *percipi* or *agency* contains this idea it cannot satisfy our notion of reality. *Esse* is *percipi* was to Berkeley a full expression of the meaning of reality, admitting no reservation. To have replied to him that it was true of one aspect only of experience would have seemed to him a *reductio ad absurdum*. The doctrine meant the absolute and final character of perception that it was not a reference to an other which had independent reality but that it was itself, *qua* perception, real. The reality of the perception was the perception. Whether his doctrine was right or wrong he undoubtedly meant by reality self-subsistence. *Esse* is *percipi* is in no sense true if there be any sense in which it is not true.

The second or full sense of reality is to have efficiency or agency as a real condition. It is an inference based on the subjective analysis of experience and owing entirely to that analysis its justification and its necessity, or, as Mr. Hodgson would express it, its freedom from assumption. The only actual existent known to us in this full sense is matter. Matter as a real existent is inferred from percept matter, which is an immediate experience. Now why if this is so, should the inference fail to give final and absolute satisfaction? It does so fail, for Mr. Hodgson rejects Materialism as untenable and the ground of the argument is simply the failure of matter to fulfil the condition of self-subsistence.

I think it will appear that Mr. Hodgson uses reality in a quite different sense in his argument on the untenability of Idealism from that which he uses in his argument on the untenability of Materialism. In the one case reality is agency, in the other it is self-subsistence.

The plausibility of Idealism consists, Mr. Hodgson considers, in the ambiguity consequent on a confusion of the two uses of the term consciousness. Its refutation consists in showing by analysis that efficient agency is not to be found in consciousness. The idealist assumes that thinking or dialectic is *per se* its own efficient agent and does not see that the efficient agency lies in the conditions of its existence. If the idealist replies that the conditions of the existence of consciousness are universally modes of consciousness he is failing to distinguish the two aspects of consciousness, he is asserting of consciousness as an Existents what is only true of consciousness as a Knowing. The refutation of idealism consequently rests on this conception of agency. To Mr. Hodgson agency is the distinctive mark of a reality which *qua* existence is not consciousness and the idealist identifies with this real agency the movement of thought or dialectic. "It would seem that there are two ways, and only two, in which the fundamental tenet of Idealism might be established, the first positive, by showing that efficient agency is inherent in consciousness *per se*, the second negative, by disproving the possibility of a valid inference from the data of consciousness to any real existent other than, but knowable by, consciousness, whether as a Subject or as an Object of it" (iv., 378). Now in the first place these two ways are in reality not two, they are different presentments of an identical argument, for agency and otherness are the same. To take first the positive proof, I am unable to see, keeping to Mr. Hodgson's distinction between consciousness as an existent and consciousness as a knowing, that by showing agency inherent in consciousness *per se* we should establish Idealism. Consciousness as an existent is in Mr. Hodgson's system an object, it is in every sense as much an other to consciousness as a knowing as any part of the existent order, so that even if we could prove the exact reverse of this theory and show consciousness as real condition and matter as conditionate there would still remain the problem of a dual order, existence and knowledge. We should be as far as ever from establishing the idealistic tenet, "There is no Being but Knowing, or Being and Knowing are one and the same" (iv., 373). Secondly, as to the negative proof or rather the disproof that there can be a valid inference from consciousness to an other than consciousness, it

seems to me that the difficulty of all philosophy is to establish the validity of the inference from consciousness to an other rather than to disprove its possibility. To me the main difficulty of Mr. Hodgson's philosophy is to see how on his principles the inference is possible. Which of the meanings of consciousness is intended? If consciousness as an existent, that by the hypothesis is an object among other objects, if consciousness as a knowing, that as subjective aspect is universal. In other words, the otherness of consciousness as an existent must fall within consciousness as a knowing, and to consciousness as a knowing there can be no otherness except objectivity which is a difference of aspect only. The doctrine of the distinction of aspects is a doctrine of the identity of content of consciousness and object of consciousness. Consequently we have this dilemma, if a real other to consciousness can be conceived, then the doctrine of aspects is untrue, for that doctrine involves identity of content. If on the other hand we accept this doctrine of aspects we are bound to deny that there can be a real other to thought. The reply I expect is, that otherness in the sense of unknowability is not intended, externality to consciousness means agency, and that is not unknowable. But if Idealism is to be refuted the question is whether a real other to consciousness must not imply unknowability. We cannot begin by defining agency as otherness, we must show that it is otherness. The refutation of Idealism consequently rests on the proof Mr. Hodgson claims to make clear by subjective analysis that agency is not in consciousness but belongs to a real order of existence other to and independent of consciousness. This real order of existence is in its subjective aspect a mode of consciousness. In putting the question of the real conditions of matter we have, says Mr. Hodgson, "to supply, in imagination, our objective but abstract time and space with a new content composed of elements different in kind, or at any rate in the mode of their combination, from any of those co-elements of feeling which are now known to us as constituents of matter, but elements which *like them are modes of consciousness* and like them are immaterial" (iv., 289). The italics are mine. The external order is a mode of consciousness, this taken absolutely is the basis of Idealism. Any qualification must, it seems to me, assert an unknowable.

I have said that Mr. Hodgson uses a quite different sense of reality in his argument against Materialism. Materialism is rejected because Matter is not a self-subsistent reality. "Matter is the only positively known object which can be held to be at once non-consciousness and real" (i., xi.).

Matter is real in both senses of the word Reality, it is real as percept and it is real as existent. It is real condition and agent. Yet it is not an ultimate conception, we must ask concerning it the question, how comes?—Why must we? We cannot put the question, how comes? concerning time or space or the order of real conditioning, why must we put it concerning matter? The answer I think is obvious, it is because matter is a complex not a simple concept or percept. "Matter is adverse occupancy of space." "In all Matter there are parts which cohere so as to occupy space, and this coherence or occupation of space is Force. That is to say the fact of coherence taken in abstraction is Force, the coherence of parts is Matter" (iv., 295). Space is infinitely divisible, Matter is not, it has a minimum limit to its magnitude. Consequently the minimum of Matter consists of two portions of space held together, which portions imagined apart must be conceived as unoccupied or else occupied with parts of Matter which are not Matter until brought together. In other words, Matter consists of two parts of space and the force which makes them cohere. What those parts of space are by themselves, more than being parts of space we do not know. Clearly therefore Matter is not an ultimate conception whether in the sense of *causa sui et mundi* or in any sense whatever. It accounts for nothing, but itself wants accounting for. It is a composite notion and we must ask how its elements have come together and how they are to be conceived apart. The answer we cannot give, for the real conditions of Matter are in the Unseen World. It is for this reason that Mr. Hodgson finds philosophical Materialism untenable.

This whole conception of Matter appears to me contradictory and useless for any philosophical purpose whatever. So far from being a positively known reality it appears to me a mere figment of the imagination containing its own refutation in the idea of it. I have nothing to say against it as a postulate of mathematics or an ultimate datum of science, but I fail to see how it can justify itself in philosophy. It is not either the elephant or the tortoise or the something or other, I know not what, of Locke's Indian philosopher. It is a purely abstract concept which must be filled by the imagination before it becomes an object. Its simplest form is a compound of two parts with one attribute and in its simplest form it is never met with. Whatever may be thought to be explained by it, the diversity of form at any point between its simplest imaginable condition and its highest known development will raise again every problem supposed to be

solved by it. If I understand Mr. Hodgson rightly, the task of philosophy as regards it is at an end when it presents it in this simplest form as an ultimate fact to science, whose business thenceforward it is to follow out the history of its development. This would be well enough if the gift were of any value. Science would be, or at least ought to be, truly grateful for an ultimate conception of matter really simple and non-contradictory. But this is not the case with Matter as now defined, it is composite and to compose it we have to produce from our imagination a something or other, we know not what, for its content. But what purpose does it serve in this philosophy? I have already said that I conceive the leading idea and central conception of Mr. Hodgson's philosophy to be his idea of agency. It is, I think, this idea of agency that has produced this doctrine of Matter. Matter is the present resting-place of agency, its here and now condition. By saying that it is the only positively known non-conscious reality is meant that it is the resting-place of agency in the world of present experience as distinguished from the Unseen World. Mr. Hodgson is opposed to every theory that would locate agency in consciousness. The assumption of it, in his view, vitiates the most part of modern philosophy. If not in consciousness then where? is the immediate question and the answer is this doctrine of material agency. It is not the need to establish a non-conscious reality that has given rise to it, for that can be done without matter. Time and Space are real, they condition the Unseen World as well as consciousness, and they are absolutely identical in both their subjective and objective aspects, the same for Knowing and Being (v. iv., 277). Also the order of conditioning is real in every sense. Matter is not wanted to establish a real order of Being independent of Consciousness, it is solely required as a present home for agency. This of course is not the way it is brought forward by Mr. Hodgson. It is to him a necessary inference from percept matter and percept matter is a fact of experience, verifiable by subjective analysis. This brings me to the most important question of all in the consideration of Mr. Hodgson's philosophy, the question of the value of the analysis of experience.

Every conception used by Mr. Hodgson is justified and solely justified by subjective analysis of experience. This analysis occupies the first volume of the *Metaphysic of Experience*, and is written with extreme care and clearness and with an acuteness in detecting and exposing assumptions that commands most unqualified admiration, it has more-

over an intrinsic interest independent of its place in a system. Two questions, however, force themselves upon me in respect of it. First, is the order of knowledge here set forth a real order? And second, are its results final, in other words, is experience in the sense here given to it a final court of appeal? Let me first however make clear in what sense I understand Mr. Hodgson to intend this analysis to represent a real order of knowledge. To describe it as psychology, to regard it as literally describing the growth and development of consciousness in the human infant is I think an entire misconception. Whatever views Mr. Hodgson may hold as to the historical order of the development of consciousness in the individual, this analysis is a purely metaphysical account of the elements which constitute experience and the description of a supposed percipient progressing in knowledge is not the fact set forth but the device adopted for setting forth the fact. Whether or not it involves any psychological theory we need not consider. What does seem to me involved by it is an atomic theory of knowledge, a view of experience that makes it consist of moments perfectly distinct, separate in thought if not in fact. A moment of experience in analysis is a simple content in time, its content is quality, its form is duration. Its time occupancy makes it curiously analogous to the conception of Matter as space occupancy, although unlike Matter the occupancy is not adverse. And just as the space element brings in my view contradiction into the conception of matter, so the time element seems to me to bring contradiction into the conception of the moment of experience. Time is infinitely divisible, but the moment of experience has duration, must we not therefore conceive it to occupy more than one part of time and consequently conceive the moment of experience to be composed of parts that are not experience? Apart however from the question of its analysis is our knowledge of this moment immediate? If all knowledge is reflective the nature of the moment as it occurs must be an inference and may be a wrong inference. Further, is knowledge constituted by these moments, and is there a real order of development from simple to complex in the manner set forth in this analysis? The first sensation that rises above the threshold of consciousness is to the supposed percipient an experience complete, so far as it goes, analysable and the subject of inference. As other sensations come and past experiences are retained, recollected and compared, knowledge gradually assumes its complete form, that is to say, the utmost expansion consistent with the limitations of the

organism in which consciousness develops. The perception of time is given in every sensation, the knowledge of space in sensations of a particular kind, and matter is known only when a combination of sensations of sight and touch have occurred, and it is only when a certain comparatively advanced stage in the order is reached that the percipient becomes aware of an order of existence independent of, prior to and the condition of the order of knowledge. Only if this order of knowledge is conceived as a real order is the question of the place in it of agency important. My first question then is, is there a real order of knowledge in this sense? The essential universality of knowledge seems to me to involve the impossibility of the knowledge of the particular as such, and such knowledge is supposed in this analysis. In my view knowledge is organic from the first, its simplest element involving relations to the whole. A purely unrelated feeling (the note struck on the pianoforte in Mr. Hodgson's illustration considered in abstraction from all relation) is not to me a something waiting to be related, it is simply nothing, its content is inexpressible in word or thought. My second question with regard to it is, is this analysis the ultimate test of reality both for the order of knowing and for the order of being? Is the truth or reality of a conception decided by an appeal to experience in Mr. Hodgson's sense? Antinomies do not trouble Mr. Hodgson, the business of philosophy is not to bring harmony into a world of baffling contradictions but to see that our conceptions are legitimately derived from our perceptions. Take for illustration time and space, they involve a contradiction even to common-sense thinking, and to philosophy the conception of their reality in the absolute sense is fatal to the conception of unity. Has philosophy then only to analyse time and space perceptions with the object of finding out what they are known as, and must it accept that analysis as the ultimate decision as to the nature of their reality? If so then we have this dilemma, that experience asserts a contradiction of reality (*e.g.*, a beginning in time which we must affirm and deny) and reason demands that the conception of reality shall be free from contradiction. It seems to me that any philosophy based on experience in this sense must lack both unity and consistency. It may be true that to ask questions the answers to which suppose a power of transcending experience is vain, and the answers void as necessarily based on an assumption, but to ask these questions is part of our nature and to endeavour to answer them has brought most of us to philosophy. Mr. Hodgson's philosophy has neither

unity nor consistency. I mean of course in the absolute sense, as a body of doctrine it possesses both in an eminent degree. This absence of unity and consistency is not regarded by Mr. Hodgson as a defect but contrariwise as due to actual insight into the nature of a universe infinite in time and space. It has, however, for a philosopher this disadvantage, that without unity and consistency there can be no system, and system is necessary for a constructive philosophy. Mr. Hodgson has given us a reconstruction based on analysis, but to me it lacks principle and fails to bring conviction. It may be right, but, if it is, it is by being a lucky guess against infinite odds.

It is in the ethical portion of Mr. Hodgson's work that the contrast between what I have called the criterion of consistency and the criterion of immediate perceptibility becomes most marked. The ethical part of this work is truly magnificent and I feel in substantial agreement with it although it seems to me unreconcilable with the world theory. The description of Conscience as Reason or Judgment dealing with the inwardness of conduct is especially fine. And here Mr. Hodgson frankly acknowledges the failure of the criterion of the merely felt and adopts the criterion of consistency and harmony. "It is not to the keenness or intensity, nor even to the felt specific quality, even in what we call the highest and noblest of the personal emotions, that their felt rightness or moral goodness is attributable; it is to their fulfilling the law of Harmony." "The whole of moral goodness may be well summed up under the two heads of Love and Justice. But these qualities, considered simply as feelings or affections, are not sufficient to account for that sense of moral validity or rightness by which they, and the actions which they attend or seem to prompt, are characterised. For this we must look to something which connects them with the whole of Existence and incorporates them with its laws, as well beyond as within the limits of our positive knowledge. Their validity arises from their being instances which exemplify and in a measure realise, in concrete existence, that Harmony which in its most abstract form is the synonym of Law itself" (iv., 190). How then does Mr. Hodgson attempt to reconcile this adoption of a new criterion with his world-theory? By differentiating practical reasoning from speculative reasoning and assigning to each a particular validity. The ideas of the Practical Reason have practical validity only, we cannot speak of their truth and falsity except with a difference. "As practical and not

speculative conceptions, their truth consists in their adequacy, their falsity in their inadequacy to the reality which they are endeavours to picture, and which, either by positive experience, or by speculative methods founded on it, is and must for us continue entirely unknown" (iv., 322). Now two kinds of truth or two kinds of validity are to me like two senses of reality ultimately unthinkable. This notion of Truth as anticipated Harmony is grandly conceived, but the limitation of its application to the practical sphere seems to me most unfortunate. It leads moreover to strange and contradictory results in the final reconstruction and not the least strange is the return in the practical sphere to that very notion of causal agency which as a speculative idea has been found untenable, I mean the idea of God as "the Power which sustains Existence in its entirety," "the Power which is the sustaining Energy of the Universe from first to last" (iv., 209).

V.—CRITICAL NOTICES.

An Essay on the Foundations of Geometry. By BERTRAND A. W. RUSSELL, M.A., Fellow of Trinity College, Cambridge. Cambridge: At the University Press, 1897. Pp. xvi., 201.

THIS book is in the main an attempt to determine the logical relations of the most elementary constituents of space. For this purpose Mr. Russell makes an extensive use of the modern mathematical developments of Geometry; and it is, therefore, very difficult to criticise his results without a considerable knowledge of Mathematics. This, I must confess, I do not possess; and, therefore, any statements I may make, involving mathematical technicalities, must be understood to be liable to correction. It seems impossible, however, to avoid such statements, since the arguments by which Mr. Russell endeavours to establish that certain axioms are *a priori* and others merely empirical always involve some reference to purely mathematical notions. And the chief value of the book undoubtedly lies in these discussions, since the purely philosophical questions as to how in general the *a priori* is to be distinguished from the empirical, and as to the relation of space to other objects of knowledge, are not treated at any great length; while the treatment of them, such as it is, seems liable to grave objections.

The book is divided into an introduction and four chapters.

The introduction (pp. 1-6) defines the problem with particular reference to Kant, attempting to distinguish more clearly than he had done between the *a priori* and the subjective, and announcing that the former notion alone will be used in the following discussion.

Chapter i. (pp. 7-53) is entitled 'A Short History of Metageometry'. In this Mr. Russell distinguishes three periods. In the first of these, which is very briefly handled, it was proved by Lobatchewsky and Bolyai that a system of geometry, in which the axiom of parallels was denied, could be consistently worked out. In the second period the chief names are Riemann and Helmholtz, whose object was largely philosophical. This period is marked by the use of analytical methods, particularly by the analytical conception of 'measure of curvature,' invented by Gauss, but first extended by Riemann and Helmholtz to a manifold of more than two dimensions, and by the discovery of a second system of Metageometry. The conception of measure of curvature as developed in this period is all-important for Meta-

geometry, since it makes it possible to define the quality which distinguishes non-Euclidean spaces from the Euclidean as an intrinsic property of the space in question. The third period finally is marked by the invention of Projective Geometry, a department of mathematics not hitherto discussed by philosophers, but which Mr. Russell considers to be of the utmost importance for the philosophy of space. He accordingly treats this period at greater length, endeavouring to show that Projective Geometry deals exclusively with the qualitative properties of space, and involves no reference to quantity. In this period the chief names are Cayley and Klein, the latter of whom invented a third system of Metageometry.

Chapter ii. (pp. 54-116) contains a critical discussion of 'some previous philosophical theories of Geometry'. In this chapter Mr. Russell contends that Kant's arguments suffice to prove the *apriority* of *some* form of externality, but are insufficient to determine which of the geometrical axioms are necessary to this; and he points out that Lotze's attempted refutation of Metageometry is entirely based on mathematical mistakes. But by far the greater part of the chapter is occupied by a refutation of the views of Riemann, Helmholtz and Benno Erdmann, who wished to maintain that all the axioms peculiar to geometry, that is, all those that involve other conceptions than those of quantity, are empirical.

Chapter iii. (pp. 117-177) is divided into two sections, in the first of which Mr. Russell attempts to formulate the axioms of Projective Geometry, and to deduce their necessity from the conception of a form of externality. He finds three axioms which are thus sufficient and *a priori*. In the second section he does the same for Metrical Geometry, finding the three corresponding *a priori* axioms, but emphasising the fact that for Metrical Geometry a fourth axiom is needed, which, however, he maintains to be of an empirical nature. The *a priori* axioms, whether in their projective or their metrical form, are involved in Euclidean and non-Euclidean Geometries alike. The fourth purely metrical axiom serves to distinguish the one from the other.

Chapter iv. (pp. 178-201) contains a short survey of 'Philosophical Consequences'. The subjects discussed in it are two. The first of these is the general relation of a 'form of externality' to 'experience,' in connexion with which Mr. Russell attempts to show that time alone is not sufficient for experience. The second subject of discussion is the contradictions in space, of which Mr. Russell enumerates three, deciding that each of them may be overcome if we interpret space as consisting merely of relations between unextended atoms that are in no sense in space.

Mr. Russell's general philosophical position does not seem very much to affect the main value of his book. He does not indeed discuss it at any great length, referring us constantly for a fuller treatment of important points to the Logics of Bradley and Bosanquet. Only one philosophical distinction is absolutely

essential to his purpose—that between the *a priori* and empirical; the rest of his philosophical apparatus, in which a 'form of externality' is the central conception, may be regarded merely as establishing and explaining this distinction.

In fact, however, they seem rather to confuse the issue. Mr. Russell tells us, to begin with, that his test of apriority will be purely logical: 'Would experience be impossible if a certain axiom or postulate were denied?' (p. 3). This test, he considers, excludes 'any psychological implication' from the word *a priori*. But the meaning of the test obviously depends on what is to be meant by the possibility of experience; and Mr. Russell seems actually to use this conception in such a way as to incur both the objections which can be urged against Kant's distinction between *a priori* and empirical, namely (1) that the distinction is not absolute, (2) that the *a priori* is confused with the object of psychological experience.

(1) That the distinction is not absolute would seem to follow from the twofold nature of the test which Mr. Russell gives us for the *a priori*. He tries to show not only that propositions which are presupposed in any particular science are *a priori*—a perfectly clear and simple test—but also to deduce the necessity of these from the necessity for experience of a 'form of externality'. Necessity, as he holds to be 'shown by modern logic,' always involves a *ground* of necessity (p. 4). But this ground must itself either be simply categorical, or else it must itself be necessary and require a further ground. In the former case we are actually trying to deduce an *a priori* proposition from one that, as categorical, is merely empirical; in the latter, which Mr. Russell seems in the end inclined to accept, we must either allow an infinite regress of necessary propositions, and thus never reach the absolutely *a priori*, or else we must accept the view that knowledge is circular, and shall in the end return to the proposition from which we started as empirical, as being itself the ground of necessity of the *a priori*, and therefore itself as much *a priori* as the latter. Mr. Russell seems actually to accept this latter view (pp. 57-60)—a view which renders his logical criterion nugatory, since it asserts that that which is presupposed in the empirical equally and in the same sense presupposes the empirical. To put the matter shortly, to show that a 'form of externality' is necessary for the possibility of experience, can only mean to show that it is presupposed in our actual experience. And this can never prove that no experience would be possible without such a form, unless we assume that our actual experience is itself necessary, *i.e.*, that no other experience is possible. (2) The only escape from this self-contradiction would seem to be by way of putting the ground of necessity in some psychological fact. And this is the subterfuge to which Mr. Russell seems actually to be driven when we find him defining his deduction from the possibility of experience as a proof that the falsehood of the judgment in

question would only be effected 'by a change which should render some branch of experience formally impossible, *i.e.*, inaccessible to our methods of cognition' (p. 60). Similarly (p. 179) he asserts: 'The ground of necessity, we may safely say, arises from the mind'. Now that which is 'inaccessible to our methods of cognition' would seem only to mean that which we cannot know; it cannot imply that the judgments in question cannot be true. But apart from a proof that they cannot be true (in which case of course they cannot be *known* in the sense in which knowledge is distinguished from belief), it would seem that the only possible way of showing that they cannot be known must be simply a psychological inquiry into the conditions that are necessary for the production of actual beliefs. The same Kantian fallacy is betrayed again very clearly on page 135, where Mr. Russell asserts that 'what is purely intellectual cannot change'. Here by 'what is purely intellectual' must be meant either what is distinguished by certain psychological marks, or what is already known to be presupposed in experience. But in the former case the fact that it cannot change can be only known empirically, whereas in the latter 'intellectual' simply means what is *a priori*, as presupposed in experience, and therefore cannot be used to confirm this distinction.

Mr. Russell's professed deduction of his *a priori* axioms from a necessary 'form of externality' is therefore necessarily futile; since by the necessity of the form of externality can only be meant that it is presupposed in actual experience, which he has already shown his axioms to be. But there are two points in his actual argument for the necessity of such a form which seem to call for particular notice, as illustrating the psychological implications which must be introduced in order to give a meaning to such a deduction.

Mr. Russell recognises (p. 184 foll.) that it is essential for his purpose to contend that, if knowledge is to be possible, there must be a diversity 'not only of conceptual content but of existence'; since a form of externality means a form of relation between several existents, and not merely between diverse contents. He has therefore to argue that the mere diversity of content, which we may admit with him to be implied in any judgment, is itself impossible unless there be also a diversity of existents. His argument to prove this point seems to be purely psychological. For he assumes as a premiss that 'knowledge must start from perception' (p. 184). These words inevitably suggest that he is concerned only with the *genesis* of knowledge—a point of view which he has himself outruled as irrelevant to the discussion in hand. Unless he does mean this it would seem he must deny that any kind of cognition except perception is possible; since otherwise what is necessary for perception would not be necessary for that other kind. Now it is hardly possible he would refuse to distinguish between *e.g.* a mathematical cognition and

mere sense-perception—indeed he has already repeatedly done so. But in that case his whole argument vanishes; since it can at best only prove that a perception of different existents must precede, as psychological condition, any other kind of cognition.

Mr. Russell fails therefore to prove even that one form of externality, time, is necessary to the diversity implied in judgment; for he does not prove, what indeed he cannot prove, since he presupposes it, that there would be no diversity, unless we perceived diverse existents, but only that we could not come to know of it. But it is necessary for him to go farther, and to maintain that time alone is not sufficient. And here it seems possible to join issue with him on a mere question of fact. For he assumes that the complexity of an object presented in time alone must be purely adjectival, *i.e.* presumably containing a diversity of content only, not of existents. But, in fact, nothing seems more certain than that my mental state at any moment must be regarded as containing a diversity of existents, which are certainly not in space. The pleasure I have simultaneously with the cognition of a certain object is not merely diverse in content from that cognition; for this would be equally true of it when the cognition was repeated without the pleasure. There is therefore some other diversity between a cognition that is present and a pleasure that is present than the mere diversity between pleasure and cognition. And it seems impossible to distinguish this additional diversity from that diversity of existence which distinguishes different things in space, or which distinguishes my pleasure at one moment from my pleasure at another. It seems then certain that diverse mental things can both exist and be known to exist simultaneously, although they are not in space, and hence the argument that space is necessary for the experience of diversity is reduced to the psychological argument that a cognition of things in space is necessary either as cause or as simultaneous condition for the cognition of our own mental states.

There is one other point in Mr. Russell's philosophical conclusions about space which seems to rest on the same confusion about the relation of logical presupposition. This is his treatment of the antinomies. Mr. Russell thinks that these can all be avoided if 'space is regarded, so far as it is valid, as only spatial order' (p. 196) or 'as relations between unextended material atoms' (p. 198). 'Empty space, which arises by an inevitable illusion out of the spatial element in sense-perception, may be regarded, if we wish to retain it, as the bare principle of relativity, the bare logical possibility of relations between diverse things' (*ib.*). I think we might retort on Mr. Russell the dictum which he quotes from Lotze that 'contradictions in a necessary subjective intuition form as great a difficulty as in anything else' (p. 196); for it seems impossible to distinguish a 'necessary

subjective intuition' from his own '*unavoidable psychological illusion*': the only possible distinction lies in the word 'illusion,' which, however, is not a psychological term, but is distinguished from 'intuition,' only as implying that its object is false—the very thing which the 'intuition' presupposed and was invented to explain. But we can not only say that such an explanation fails to avoid the difficulty; it seems that the reason why it does fail is that it involves a definite logical error. For it is only, if our intuition of space be true, that we have any reason to believe in these relations between unextended atoms; in other words, empty space and spatial order are equally presupposed in experience, and if we reject the one, we have no longer any reason for accepting the other. The same result seems to follow from a consideration of the other phrase by which Mr. Russell tries to explain away empty space. 'A mere name for the logical possibility of spatial relations' (p. 197) can surely mean nothing but 'that which renders spatial relations possible'; and hence if there be no empty space, it would seem to follow that there can be no spatial relations.

This point seems to be closely connected with another philosophical error which constantly appears throughout Mr. Russell's mathematical discussions—an error which seems to arise from a certain ambiguity in the use of the term 'relativity'. Thus Mr. Russell states on page 160 '*Position is not an intrinsic, but a purely relative, property of things in space*'. If there could be such a thing as absolute position, in short, metrical Geometry would be impossible.' This statement Mr. Russell seems to regard as equivalent to the statement that all points are qualitatively similar; and he seems to base it upon the fact that 'so long as we leave matter out of account, one position is perfectly indistinguishable from another' (p. 77). A similar argument is used with regard to the relativity of magnitude. 'Magnitude' he says 'is nothing apart from comparison' (p. 87); and again 'To speak of differences of magnitude in a case where comparison cannot reveal them, is absurd' (p. 154). But it would seem that this is a purely psychological argument: it assumes that nothing is distinct unless it has some property which will enable the mind to distinguish it. Mr. Russell himself seems sufficiently to expose the fallacy of this assumption in a note on page 165, where he says 'although measurement and the judgment of quantity express the result of comparison, yet the terms compared must exist before the comparison'. The principle implied here seems directly to contradict such a statement as we find only two pages earlier: 'Positions exist only by virtue of other positions' (p. 163). The true view seems rather to be, that though positions have that qualitative similarity which is necessary for the axiom of free mobility, yet this in no way prevents them from having *also* a qualitative and intrinsic difference, though this perhaps we could not have discovered apart from the qualitative differences of

other things. As it is, we certainly have discovered it: we do distinguish different positions, as Mr. Russell says, in 'intuition'; and to assign a cause for the existence of this intuition does not impugn but rather presupposes its validity.

The assertion of absolute position in this sense obviously does not involve 'an action of mere space, *per se*, on things,' which Mr. Russell seems to regard as equivalent to it (p. 151). And thus the necessary connexion which he asserts between the axiom of free mobility and the relativity of position disappears. The assertion of this connexion seems, indeed, to be partly due to the way in which this first of Mr. Russell's *a priori* axioms is stated—a form which is indicated by the name. For Mr. Russell conceives this axiom, as distinguished from the corresponding projective axiom of the homogeneity of space, to introduce 'an entirely new idea,' 'namely, the idea of Motion'; for, he says, our results cannot be obtained 'without at least an ideal motion of our figures through space' (p. 149). It seems desirable to protest against this conception of the movement of spatial figures. It is implied in the view accepted by Mr. Russell, that superposition is the criterion of equality between spatial figures. But, in fact, 'the ideal motion' by which superposition is affected implies that we already know the figures in question to be equal. For to move a spatial figure can mean nothing more than to construct a figure equal to it in another part of space; and this can not be done, unless we know immediately when two figures in different parts of space are equal. This, therefore, 'that there are equal figures in all parts of space,' would seem to be the true form of the so-called 'Axiom of Free Mobility,' which is presupposed alike in the motion and in the measurement of things which occupy space. To conceive spatial figures as themselves moving, we must conceive them as things, whose identity in motion means no more than that they successively occupy equal spaces. For the equality of these spaces themselves there is then no possible criterion. Its necessity is proved by the fact that it is presupposed alike in the assumed equality or inequality of any things whatsoever that can occupy space.

The only other point in Mr. Russell's book on which I desire to touch is the possibility of non-Euclidean spaces. Mr. Russell agrees 'with Helmholtz in thinking the distinction between Euclidean and non-Euclidean spaces empirical' (p. 73). His arguments in favour of this contention seem to involve a considerable knowledge of mathematics, and yet his result is philosophical. Philosophers therefore would seem to be placed in an awkward dilemma: either they must accept the result merely on the author's authority—a proceeding not generally to be recommended in philosophy; or else they must be liable to be told that their criticisms are vitiated by mere mistakes in mathematics. In view of this dilemma, I shall only venture to mention some points which make Mr. Russell's arguments appear to me to be in-

conclusive. A fuller explanation of these points might, perhaps, make Mr. Russell's work more useful for philosophy. As it is it seems to be too mathematical for philosophers, even if it is not also too philosophical for mathematicians.

The first point, on which I think a fuller explanation would be desirable, may be raised in connexion with the argument on page 85. Mr. Russell here asserts that 'There is no qualitatively similar unit in the three kinds of space, by which quantitative comparison can be effected'. 'A debt of £300' he goes on 'may be represented as the asset of - £300, and the height of the Eiffel Tower is + 300 metres; but it does not follow that the two are quantitatively comparable.' This analogy seems to me at least unfortunate. For though - £300 is not quantitatively comparable with + 300 metres, yet, in order that - £300 may have any meaning at all (and Mr. Russell has admitted that one measure of curvature may be regarded as negative), there must be some conceivable positive quantity, £300 with which - £300 is quantitatively comparable, and what this is, in the case of a negative measure of curvature, Mr. Russell does not explain. His argument would seem rather to exclude the possibility of any such; and thus we should be left with a negative quantity which is a negative quantity of nothing. Moreover Mr. Russell repeatedly asserts that our actual space 'may have a very small space-constant' (p. 115), and in order that any meaning may be given to this assertion, it would seem that one space-constant must be quantitatively comparable with another. Unless one denotes a smaller, and the other a larger quantity of some common quality, none could be 'very small'. That two cannot be suffered 'to coexist in the same world' (p. 85) is surely utterly irrelevant, since we are quite well able to compare non-existent with existent magnitudes, provided only we know *of* what they are magnitudes.

My next point may perhaps involve nothing but a verbal error. It concerns the statement made on page 159, with reference to the geometry of non-congruent surfaces, that 'The fundamental formula, that for the length of an infinitesimal arc, is only obtained on the assumption that such an arc may be treated as a straight line, and that Euclidean Plane Geometry may be applied in the immediate neighbourhood of any point'. But on page 19, where Mr. Russell is explaining how we can find a 'sense of the measure of curvature in which it can be extended to space,' it appears that the formula given involves a reference to 'small arcs'. Now if by 'small' is here meant the same as by 'infinitesimal' in the former passage, it would seem either (1) that in any space which is defined by means of this formula 'Euclidean Plane Geometry may be applied in the immediate neighbourhood of any point,' or else (2) that on page 159 'the Plane Geometry of any congruent space' should be substituted for Euclidean Plane Geometry. The former alternative would seem to contradict Mr.

Russell's assertion of the qualitative dissimilarity of Euclidean and non-Euclidean spaces.

Again I find a difficulty in what seems to be implied on page 111, in the argument against M. Delboeuf, that in non-Euclidean spaces the space-constant may have a definite ratio to other magnitudes in the same space. If this is the case, it would seem it must be possible to measure the magnitude of the space-constant against other magnitudes in the same space; and measurement, as Mr. Russell often tells us, presupposes the straight line. But the straight line in any space means not that which is in common between Euclidean and non-Euclidean spaces, but the straight line of that space; and hence we should be measuring our space-constant by means of that which presupposes it. Or else, if by the straight line presupposed in measurement is meant the common quality of Euclidean and non-Euclidean straight lines it would seem that we could only use it in measurement if the things measured are nothing but a certain quantity of it; but in that case the space-constant of one space would differ only quantitatively from that of another, and there seems no room for the qualitative difference between spaces which Mr. Russell asserts to be the only one.

The conclusion which suggests itself to me from these considerations, is that all spatial magnitudes can only be regarded as magnitudes of some one quality. If we are to allow that the straight line has two qualities, one that is in common between Euclidean and non-Euclidean spaces, and another that is found in any given non-Euclidean space, then it seems that measurement must be impossible in such a space, since we have two measures of magnitude, which are consequently not comparable *inter se*. Measurement seems to presuppose only one measure of magnitude, and hence the truth of Euclid would be involved in the possibility of measurement, and so would be *a priori* in the same sense as the axiom of 'Free Mobility': since 'in Metageometry we have, while in Euclid we have not, a standard of comparison involved in the nature of our space as a whole' (p. 111). That the axiom of parallels is logically independent of the other axioms would seem to make nothing against this argument, since, if Mr. Russell's three *a priori* axioms differ from one another at all, they likewise must be logically independent of one another, in the sense that some part, at least, of one may be denied, without compelling us, on pain of contradiction, to deny the others also.

G. E. MOORE.

Lectures and Essays on Natural Theology and Ethics. By WILLIAM WALLACE, late Fellow of Merton College and Whyte's Professor of Moral Philosophy in the University of Oxford. Oxford : At the Clarendon Press, 1898. Pp. xi, 566.

IN Prof. Wallace the University of Oxford has lost one who was on the whole perhaps the most brilliant and distinguished (if not the most widely influential) teacher of Philosophy who has occupied a chair among us since the death of Prof. Green. Up to the time of his death he had published only the *Prolegomena to Hegel's Logic* (in two forms) and an *Introduction to Hegel's Philosophy of Mind*. Although he exhibited extraordinary activity as a Professor, continually producing quite new and original courses of Lectures, most of these Lectures were usually unwritten, and the present volume probably completes the tale of his permanent contributions to philosophical literature. It consists of a course of Gifford Lectures on Natural Theology, a series of Essays on Moral Philosophy, and a few miscellaneous reviews. The feeling with which most students—even those in general sympathy with his point of view—will probably rise from the perusal of the volume will be one of immense admiration at the literary perfection of the writing and the power of the man combined with disappointment at their actual contribution to philosophical thought. Such a disappointment is probably not the result of accident: it is not due to the writer's failure to express his own thought or to the sad and sudden termination of his laborious life. It is the necessary outcome of a philosophical position which could hardly find a better or fuller expression than it does in this volume.

Prof. Wallace was commonly known as a Hegelian. But it is rather the Hegelian frame of mind than the Hegelian dogmas which the reader will encounter in this book. It is singularly free from technicalities, from all that the profane call "jargon". It is rarely that he rises (or falls) into the commonplaces of Hegelian rhetoric. He is moreover singularly catholic in his appreciation of other thinkers. He is bent on finding a meaning in great writers whose line of thought is usually considered to be least in harmony with his own. He can appreciate Leibnitz as well as Spinoza, Lotze as well as Hegel. He does not regard the English philosophers as mere instructive targets for their German critics, nor does he assume that a philosopher is necessarily contemptible because he was also a Bishop. He can even mention the name of Mr. Spencer without insult, almost without contempt. Not unnaturally the Master of Balliol who prefaces the volume with an admirable biographical notice finds him "too sympathetic". His reviews of Lotze and Nietzsche are admirable examples of this quality.

Up to a certain point nobody could better represent the Hegelian attitude of mind. Every historical system of Philosophy is represented as a necessary but one-sided tendency. In all

systems, schools, dogmas, tendencies, there are elements of truth, but all have in them inherent defects, limitations, one-sidednesses which necessarily lead on to some other, it may be opposite, development which equally in turn has to be transcended. Nowhere in the history of Philosophy can the searcher after truth find a bit of solid ground on which the sole of his foot may rest. It is not merely that no one system can be accepted as a whole, but no truth is so well established that it may not easily degenerate into an error calling for fresh protest. Everywhere in the extremely learned pieces of criticism of which the book is largely made up, we encounter (under Prof. Wallace's guidance) nothing but phases, tendencies, aspects. So subtle is the essence which alone this attitude of mind finds it possible to distil from the whole process that it can hardly be put into words at all. It can only be suggested or hinted at by the criticism of other people's mistakes. Truth becomes rather an escape from conflicting errors than any positive possession. Idealism becomes a temper of mind rather than a creed—a temper full of faith in an ultimate meaning in the Universe but scarcely ever able to say articulately even in part what that meaning is, unless by pointing to some historical system, social or religious, as a symbol of the reality beyond—but yet a symbol which the philosopher must not suffer himself to take too seriously, for fear he should become even as the vulgar—a mere Materialist, a mere Theologian or (lowest depth of all) a mere "subjective Idealist". Philosophy so understood tends to become not so much positive thought as a kind of enlightened disillusionment, which will be earnest and reverential (as it was with Wallace) or cynical and flippant according to the temper of the individual student, but which is in either case equally incapable of affording that light and help in dealing with the practical problems of duty and of faith for which some simple souls are still in the habit of looking to Philosophy and Philosophers.

All this is "Hegelian" enough: at least it is one side of Hegelianism: but in Prof. Wallace this attitude of mind is carried so far as almost to destroy Hegelianism. The positive dogmas of Hegelianism seem to command little more respect than any other dogmas. The jubilant tone with which the more constructive Hegelian proclaims that the eternal problem of the One and the Many has at last received its perfect and final solution is conspicuously absent. If we hear a good deal about "Religion," there is no suggestion that a way has at last been found by which the philosopher may identify himself with the dogmas and the worship of traditional Christianity, or on the other hand that any philosophic truth has been discovered which will take its place. If we hear a good deal about "the State," we are not taught to assume that any actual system of Church and State (the Prussian of 1820 or the British of to-day), any actual programme of political or social regeneration, can claim the enthusiastic and undivided allegiance which is claimed by those who think they

have really heard what the Idea (if I may be allowed to use a metaphor) has to say at least to the present generation of Germans or Englishmen. Even where Wallace does venture to express a thought which is not merely a criticism or an interpretation, he seems to be oppressed by a consciousness that even the least dogmatic of dogmas are destined to be swept away by the never ceasing dialectical movement. Even Hegelianism, even the last word that the last and least dogmatic prophet of Hegelianism may have uttered, is destined to be "transcended"—to be transcended so soon that it really seems hardly worth while to utter it.

The result of this attitude of mind is that the Gifford Lectures on Natural Religion resemble rather a series of "Pensées" or a "Journal Intime" than a systematic treatise; they would positively gain in effectiveness if their discontinuity were marked by occasional rows of stars. It is scarcely possible to exaggerate their literary brilliancy, their penetration and suggestiveness, or the impression they give of the power, the imagination, the digested learning of the man. They often remind one of Amiel; yet, with a stronger head and a stronger character than Amiel's, the rugged Scotchman lacks the pathetic loveliness of the ineffectual Genevan Professor. Wallace's thought too breathes a profound melancholy; but he is too strong to appeal for our sympathy.

Although averse to positive conclusions, it must not be supposed that Wallace shrank from facing problems: he was not the man to take refuge in the subterfuges of metaphysical rhetoric. He saw that the issue that the plain man has to face "God or no God" was not to be evaded by vague protests against an "anthropomorphic deity" on the one hand and vague talk about an underlying Unity on the other. He puts the problem, and yet it is doubtful whether even in his own mind he gives a consistent and unvarying answer to it. We all know that among those who (whether they call themselves Hegelians or not) are content to use the language of Hegelianism upon the central problems of religious thought, there are to be found those who mean by that language much the same as the plain man means when he thinks of God as "a person or a spirit," and others who, ridiculing the idea of any other self-consciousness in the Universe besides the spirit of man, mean by "the Absolute" simply Nature as Nature must needs be understood by any one who knows what Metaphysic means. Wallace clearly belonged to neither of these classes. He attempted to steer a course midway between the two tendencies. If God was not to him a Person, he was not exactly a thing to be spoken of in the neuter. But beyond this it is scarcely possible to say much. Our author does little to help those who find such a position difficult or unintelligible. There is a continual oscillation between the opposite tendencies. God is not a cause but he is "the life and thought and spirit of all causes," and yet there are things in the book which make us doubt whether "spirit" is to

be taken seriously. There is the usual protest against thinking of God as "personal" coupled with the admission that he is "more than a person": the usual protest against thinking of him as moral or good, and yet there is always present a vague tendency to treat God as having something to do with the moral ideal and as a being capable of inspiring the aspiration and the effort of moral beings. In short Wallace probably felt the necessity of genuine Theism and its difficulties with about equal force. The lectures are full of interesting things about Theology and Religion, but it is to be feared that any one who goes to them with the expectation of finding any suggestions as to why he should believe in God and what he should believe about him will come away disappointed. Wallace would have ridiculed Mr. Spencer's worship of the Unknowable. All that we know would to Wallace be in a sense knowledge of God, since God is all, but it may be doubted whether in point of moral or spiritual value or indeed of speculative satisfaction, there is very much difference between the worship of the Unknowable and the worship of the All.

In the ethical Essays again we find chiefly criticism, appreciation, distinctions, essays on the meaning of words. They are full of interest and of varied learning (though it is strange that so learned a writer should think that a "man of religion" in Chaucer means one in holy orders). Everywhere valuable hints and suggestions: nowhere a connected argument or line of thought. Scarcely anywhere do we find any articulate answer to any of the really difficult problems about which Moral Philosophers have been wont to busy themselves. One of the most characteristic, if one of the least satisfactory of these Essays is on "The Ethics of Socialism". Prof. Wallace insists on regarding Socialism as a vague tendency to increase the interference of the State with the individual: not as a scheme for righting a definite social injustice by a definite change of economical organisation. With such a conception of Socialism we can hardly expect the writer to come to close quarters with it. But yet here is a subject surely on which it would seem the philosopher ought to be able to offer some guidance to the practical man. To tell us that some socialists do not appreciate the "organic" nature of Society does not help us much. There is in short no discussion at all as to whether the thing is right or wrong. The philosopher's business is, it would seem, to see which way the stream of tendency is going. "And to follow it" the hasty reader may be disposed to conclude; but no! "The true attitude towards this movement is neither to ban or to bless it." The reader who is not in love with Wallace's line of thought cannot help asking himself whether it is not its tendency to make inevitable a similar attitude towards all philosophies, all creeds, all causes, all schemes of action. "Not to bless or to ban anything in heaven or earth"—unless indeed we ban the crude "popular" philosophies which suggest that some things ought to be banned and others blessed—is that really all that Philosophy has to teach us? No wonder

that with such a view the writer should pronounce that "the common politician is always vulgar". But it is rarely that Wallace lapses into the arrogance so common among (shall I say?) the "common philosophers" nurtured in his School. He has reminded us indeed that the philosopher is after all also a man, and this book is full of evidence that in him at least the philosopher had not extinguished the humanity of a very noble nature. But has the philosopher nothing to say to the man? It would seem not, according to the present philosopher's teaching. It is strange that one who was so keenly alive to the connexion between the teaching of philosophers and the practical tendencies of their age, between individual character and philosophic creed, should recommend so impotent an attitude towards both the intellectual and the practical problems of his age. That perhaps is one of the necessary inconveniences of living in an age in which Philosophy has out-lived the dreams and illusions of her youth.

H. RASHDALL.

The Philosophy of Greece Considered in Relation to the Character and History of Its People. By ALFRED WILLIAM BENN. London : Grant Richards, 1898. Pp. x., 308.

MR. BENN's present volume has all the stimulating quality of his *Greek Philosophers*. It presents the same distinctive view of the factors of Greek thought. The difference is that while the geographical, political and religious circumstances of Greek antiquity are brought more systematically into view, references to modern thought are as far as possible avoided. The result has been that by far the greatest space is given to the formative period of Greek philosophy, down to the death of Socrates ; Plato, Aristotle and the post-Aristotelian schools getting only the last third of the volume.

In his treatment of the early thinkers, Mr. Benn has evidently kept his eye on the many important contributions to their history which have appeared since the publication of his former work. By notes and slight indications in the text he is able to make clear the view that he deliberately takes. No attentive reader is in danger of supposing that he has unknowingly passed over views adverse to his own. At the same time he displays, along with the most extensive knowledge, a facility in generalising which, like the plan itself, reminds us of Buckle. The parallel is indeed almost too obvious. As with Buckle, though we cannot complain that he is ignorant of the facts, we may occasionally desire that rather more account should be taken of "negative instances".

To point out cases of this kind does not need knowledge equal to the author's. It will probably strike even the general reader

as paradoxical when Mr. Benn talks about "such a nest of bigotry as Athens". And the objection presents itself, if philosophers, as Mr. Benn says, were everywhere else in Greece freer than at Athens, why were they all eager to go there and gain hearers or become founders of schools? At the time when mediæval was giving way to modern philosophy, we do not observe a rush of original thinkers from all parts of Europe to Madrid, though Spain was then politically predominant.

If Mr. Benn does not follow Grote in his general vindication of the Athenian democracy, he follows him in his defence of the Sophists. To the principal Sophists he assigns a high place as original thinkers, and more historical influence than is usually allowed. He divides them into the two classes of "humanists" and "physiocrats". In the former class he places Protagoras and Gorgias; in the latter, Hippias and Prodicus. The Stoic rule of "following nature" he would trace partly to those among the Sophists who set up "natural law" as a standard. Here, however, he recognises the much greater influence of Heraclitus. The contention of the sceptical Academy, that probable rules of human conduct are attainable without a settled physics or metaphysics, he finds to be derived through Plato from "the great humanist Sophists". Epicureanism, he thinks, "can only be rightly estimated as a halting compromise between the opposing tendencies inherited from Protagoras and Hippias".

To go back to the beginning. Mr. Benn finds that the characteristics of the Hellenic—or, more exactly, of the Ionic—spirit, were expressed in a general view of the world marked by the three principles of circumscription or limitation, antithesis, and mediation. These he traces through the early philosophical explanations of the universe. Before the stage of philosophising was reached, the general view was implicit in the ideal of "Sophrosyne," or "self-knowledge and self-control," which already ruled the life and art of the Ionians. Both the aesthetic and practical ideal and the speculative thought were aristocratic products. The philosophic movement indeed was aided by the beginnings of popular government; but it was less aided by the religious revival—essentially a democratic movement—which followed. The next phase of the transitional period, *viz.*, the Ionian emigration to Italy, due to the pressure of Asiatic conquest, brought philosophy into new conditions. The special characteristics of the "Italic" series of thinkers are here traced in an interesting way to geographical circumstance. The "mediating" cause—to use one of Mr. Benn's own expressions—is the increased use which navigators and colonists found for mathematical science. This reacted on the philosophy of the Italiote Ionians, giving it a bias towards some immutable principle, as opposed to a principle of change. The explanation from race as against circumstance would of course be to suppose a reaction from the Dorian spirit with its tenser "harmony," but Mr. Benn is inclined to deprecate

the Dorians. On the other hand, he does not dwell on the fact that during the historic period they were the representatives of the aristocratic (or oligarchic) principle against the more democratic Ionians. To keep this well in view, with all its implications, might have redressed the balance of judgment on the Athenian democracy.

It would be interesting to follow Mr. Benn's account of the later physical thinkers who were on the way to atomism ("The Minute Philosophers") and of the sophistic system of education ("The Diffusion of Culture"); but limits of space forbid, and room must be found for a word on his estimates of Plato and Aristotle. Plato he describes (with a reference to Maurice's *Ancient Philosophy*) as "the most practical of all philosophers". Aristotle, on the contrary, he regards as a man of "exclusively theoretic endowment". This, he goes on to say, "limited his vision to the surface of things," and was the source of his weakness in physics. But was Democritus, to whose physical insight Mr. Benn does justice, less of a pure theorist or more of a practical reformer than Aristotle? Elsewhere, indeed, Mr. Benn suggests a more plausible explanation of Aristotle's failure to adopt the most penetrating physical views of the early thinkers. What he disliked in them was their appearance of paradox. In his own explanation of the universe, he desired to recognise a portion of truth in the common-sense view of things. But is this really the character of the scientific investigator of nature untouched by practical interests? Is it not rather to be connected with Aristotle's pre-eminently successful cultivation of the humanistic sciences; where, as the philosopher himself remarks, the highest degree of scientific precision is unattainable, and the empirical judgments of mankind have to be taken into account by any one who would attain such scientific truth as is possible? And perhaps there is not quite so much difference as Mr. Benn tries to make out between Aristotle's and Plato's view of the theoretic life. Plato, too, thought this in itself the happiest; his ideal sage descends from it not out of absolute preference, but under compulsion or from a sense of duty. Of course Mr. Benn's distinction is broadly true, that Plato's was a reforming mind with extraordinary glimpses into the distant future, while Aristotle was above all a great systematiser, whose outlook was towards political life as it had hitherto been lived in historic Greece. Exactly for that reason he is often with some justice described as a more typical representative of the Greek spirit.

The volume breaks off rather abruptly with no more than two or three pages on the last period of what was after all, as Mr. Benn admits, essentially Greek thought, although it was carried forward by men of various races. This is the more to be regretted because in his *Greek Philosophers* he had a good chapter on the distinctive contribution made by Plotinus to philosophy. And his own principle of "antithesis" seemed to require some account of the new spiritualistic movement after the sketch given of the

Stoic and Epicurean naturalism. The little that is now said hardly agrees with some remarks in the earlier book on the detachment of the Neo-Platonists from the life of their time. "That all things proceed from the One, and aspire to be reabsorbed into the One," Mr. Benn says of Plotinus, "is the master-thought of his philosophy; and in that thought the abstract unity to which Rome had ever tended—towards which she still tends—found its triumphant metaphysical expression." As a parallel, the historian of modern thought might equally well assert that Spinoza's doctrine of Substance was a metaphysical formulation of the unity of the Dutch Republic; in the place of which Leibniz put a multiplicity of monads because he had observed the "particularist" tendencies of the German States within the Empire. The true reason, indeed, for leaving off at this point of the history seems to be that the method of direct reference to geographical or political circumstance is no longer applicable. Circumstance tells, no doubt, in the early stages. Later, it is mainly the philosophical tradition that tells.

T. WHITTAKER.

VI.—NEW BOOKS.

An Introductory Logic. By JAMES EDWIN CREIGHTON, Sage Professor of Logic and Metaphysics in Cornell University. New York: The Macmillan Co. London: Macmillan & Co., 1898. Pp. xiv., 392.

THIS work is intended as a text-book for college students and grew out of the author's lectures in Cornell University. It is arranged in three parts, preceded by an introduction treating of the general standpoint of Logic, and of its history. The historical sketch, especially as regards the Greeks, seems too trite and general to be of definite service to the student. A more pointed account either of early Greek thought or of Aristotle would surely have filled the space more usefully. The three parts, which form the body of the work, deal respectively with the Syllogism, with Induction, and with "The Nature of Thought". Under the two earlier heads a full account is given of the traditional formal logic of the syllogism, complete with Euler's circles and mnemonic lines; and of what may now perhaps be called the traditional formal logic of induction, including Mill's "Methods," Analogy, Hypothesis, and a chapter on the "Fallacies of Inductive Reasoning". Part iii., under the heading "Nature of Thought," is intended to introduce the student to the philosophy of Logic as treated by Bradley, Sigwart and their followers. So that here the field is retraversed, and the distinctions which had been provisionally accepted are reanalysed from the standpoint of identity in difference and of the ultimate unity of knowledge. The author in his preface defends this attempt to bring the philosophy of Logic before students in an elementary course; and one's view of its advisability will probably determine one's attitude to his work. He points out, what seems worth considering, that psychology has ceased to be a "philosophy of mind," and that thus a fresh demand seems to be made upon Logic for the investigation of intelligence as cognitive. Ultimately, the elements which here find themselves between the same covers will hardly form an organic whole. But so long as it cannot be said that philosophical Logic has provided itself with a teachable body of doctrine, it may be well to lay before the student, as is here done, the sort of tradition which he might have gathered from Jevons and Bain, together with indications of the points at which it seems to break down. Prof. Creighton writes sensibly and temperately, and introduces, by cautions and anticipations in the body of his work, the greatest amount of unity which is compatible with his plan. It is not quite a happy family, however, in which we find Mr. Bradley's "A to the right of B," etc., introduced under the heading of "Irregular Arguments," along with Enthymeme, Sorites and the like. And there is an awkward discrepancy in the use of the term opposites on page 52 for contraries, and on page 72 for contradictories. There are other cases of laxity of terminology, such as the use of Definition as a class name covering Division. If we are to teach the old Logic, should we not be very precise with it?

B. BOSANQUET.

The Gospel According to Darwin. By W. HUTCHINSON. Chicago : Open Court Publishing Co., 1898. Pp. xi, 241. Price, \$1.50 ; 6s.

In this book we have an attempt, by a physician of wide experience, "to get a bird's-eye view of a few of the influences affecting human hope and human happiness from the standpoint of that view of (and attitude towards) the universe which is best expressed by the term Darwinism". It is, of course, impossible to work out a system of ethics, naturalistic or other in 250 12mo pages. But the author writes his ethics at first hand ; and, despite omissions and occasional inconsistencies, his book well repays reading and study.

In chapter i. it is shown that the 'fifth gospel' has its own answer to the problems of its forerunners. The existence of evil is replaced by progress through conflict ; morality is derived from the family affections ; personal immortality is given up for an immortality of our physical constitution, and of our influence, so far as this is for good. Chapter ii. argues that the good—sunlight, life, love—is omnipotent ; chapter iii., that our virtues are older than our vices or ourselves, and that instinct, the crystallised experience of thousands of generations, is of the very highest value as a guide to conduct. Chapter iv. maintains that death is not opposed to life, does not involve waste of energy, and is not a painful ordeal. Chapter v. works out the question of eternal life : all that is true, good, brave and virtuous becomes part of the framework of the universe ; all that is base falls by its own weight. Chapter vi., 'Love as a Factor in Evolution,' sets the arguments of Darwin, Krapotkin and Arthur Thomson against those of Huxley. Chapter vii. enforces Mr. Kipling's doctrine, that courage is the first virtue ; and chapter viii. emphasises the strength of beauty. Chapters ix. and x. are sociological : they discuss the benefits of overpopulation, the economics of prostitution, and the duty of reproduction. Chapter xi. sets forth the uses and value of pain, the 'mother of the mind as muscle is its father'. Chapter xii. teaches that 'joy is not only perfectly legitimate, but one of the most wholesome and elevating aims which can be found. As an incentive to vigorous, healthy development, both moral and physical, it takes its place beside the other great motive impulses, love, courage and hunger.'

Truth and Error: or the Science of Intellection. By J. W. POWELL. Chicago : Open Court Publishing Co., 1898. Pp. 428. Price, \$1.75 ; 8s.

On its constructive side, this work is an attempt to work out a hylozoistic metaphysics, with especial reference to the resulting epistemology. At the same time it carries on a continual polemic against the "reifications of the void" which vitiate idealism and materialism alike. In both regards, it is the work of an amateur in philosophy. The author's scientific reputation will, doubtless, bring him readers ; and the reader will find some compensation for the difficulties of a strange terminology and condensed style in the shrewdness and insight of many incidental remarks and criticisms. As metaphysics or theory of knowledge the contents of the book are worthless.

The fundamental thesis is that the universe is 'pentalogic'. Matter has five constitutive properties : number, space, motion, time and judgment. These are real, not artificial ; founded in nature, not creations of the mind. Correlated with them are five essentials (absolute) and five variables (relative). All alike are referable to five categories : kinds, forms, forces, causations, concepts. Then come the systems of detail :

the five kinds of particles, of natural bodies, of animal principles, of senses, of faculties, of elements in the sensation, etc.,—to the number of twenty or more. The relationships between series and series are established by an undefined 'development,' by "affinity as choice," by 'organisation,' etc.

The work is dedicated to Prof. L. F. Ward, to whose elaborate account of its contents in *Science* (27th January, 1899) reference may here be made.

Footnotes to Evolution: a Series of Popular Addresses on the Evolution of Life. By D. S. JORDAN, E. G. CONKLIN, F. M. MCFARLAND and J. P. SMITH. New York: D. Appleton & Co., 1898. Pp. xviii., 392.

Six of President Jordan's essays call for brief mention here. Those on the evolution of mind, and on the struggle for realities, set forth the author's views of genetic psychology. Mind is defined as the sum of the operations of the nervous system, or of the similar operations occurring in organisms without specialised nerve fibres or cells. Its basis is irritability: thus the point of growth in plants is the seat of the plant mind. Its type is reflex action; consciousness is not necessarily implied in it. At a certain stage "arises the necessity for choice as a function of mind". Attention is selection; suppression of undesired action is accomplished by the will. Nothing is said of the mechanics of this development, though we are warned against positing an ego, an entity apart from organisation. But, surely, the problem of attention is the central problem of a genetic, as of every other psychology; it is not explained by a mere mention of the 'necessity' for its origination.

The papers on degeneration, on hereditary insufficiency, and on the woman of evolution and the woman of pessimism, discuss sociological topics; that on the stability of truth meets the arguments of the Marquis of Salisbury, Mr. Balfour, and Prof. Haeckel. The remaining nine addresses are concerned with biological matters.

The Problems of Philosophy: An Introduction to the Study of Philosophy. By J. G. HIBBEN. New York: Chas. Scribner's Sons, 1898. Pp. vi., 208.

Prof. Hibben aims, in this little book, to "give a simple statement of the various schools of philosophy, with the salient features of their teachings, and to indicate the chief points at issue in reference to controverted questions: . . . to furnish the student who is beginning the study of philosophy a bird's-eye view of the general philosophical territory". After a brief plea for the study of philosophy at large, and an enumeration of the chief philosophical problems, come eight special chapters, dealing with Being (ontology), the world (cosmology), the mind (psychology), knowledge (epistemology), reason (logic), conscience (ethics), political obligation (political science), and the sense of beauty (aesthetics), respectively.

The author has written shortly, simply, and in an attractive literary style. His work will prove of high value to the amateur of philosophy—the 'educated' reader—and to the undergraduate who finds himself upon the threshold of a philosophical curriculum. In a future edition it would be well to supply a few selected references for further reading, and to rearrange the chapters in such a way as to bring out the interrelation of the various philosophical disciplines.

Matter, Energy, Force and Work: a Plain Presentation of Fundamental Physical Concepts and of the Vortex-atom and Other Theories. By S. W. HOLMAN. New York and London: Macmillan & Co., 1898. Pp. xiv., 257. Price, \$2.50.

The object of this excellent little book is to "present in a plain and logical manner some fundamental ideas and definitions of physics; . . . to proceed in an orderly manner to develop the concepts and definitions". The author has been most successful in his attempt; and his work may be recommended both to physicists and to metaphysicians. That the scientific man may not rashly venture on philosophical territory has been abundantly proved by certain recent essays in epistemology. It is not less important that the philosopher should have a clear understanding of the concepts and theories with which he is called upon to deal in his endeavour to harmonise the standpoints and hypotheses of the special sciences.

The book falls into two parts. Part i. includes chapters on substance and matter, motion, energy, forms of energy, force, kinetic energy, force measurement, work, and potential energy; part ii., chapters on the function of theory and hypothesis, the kinetic theory of gases, Le Sage's theory of gravitation, the vortex-atom theory, and the nature of energy and matter.

Mathematical Essays and Recreations. By H. SCHUBERT. Translated by T. J. MCCORMACK. Chicago: Open Court Publishing Co., 1898. Pp. 149. Price, \$1.00; 5s.

A collection of six essays on mathematical subjects. The first, on the notion and definition of number, defines counting as (1) regarding things as the same in kind; (2) associating other things to them, ordinarily, accurately and singly; and (3) expressing the result of such association (number) by a conventional sign. The second, on monism in arithmetic, explains the introduction of zero, negative, fractional, irrational, imaginary and complex numbers by appeal to a psychological law, the 'principle of no exception'. The third, on the nature of mathematical knowledge, discusses the conservatism, developmental progression, and self-sufficiency of mathematical thought. The fifth, on the fourth dimension, deals at length with the spiritualism of Zoellner and Ulrici. The remaining two are entitled "The Magic Square" and "The Squaring of the Circle". The volume is interesting throughout, and the translation well done.

The Elements of Sociology: a Text-book for Colleges and Schools. By F. H. GIDDINGS. New York and London: Macmillan & Co., 1898. Pp. xi., 353. Price, \$1.10.

Prof. Giddings' *Elements* is in part a redaction of his larger book, *The Principles of Sociology*, and in part a further development of the working hypotheses there adopted. The work is clearly written, and furnishes a serviceable educational tool to those teachers who adopt the author's sociological standpoint. Whether this standpoint is at present securely enough established to justify the introduction of the book into the curricula of colleges, and more especially of schools, is a matter for the expert to decide; the lay reader inclines to doubt. And the doubt is not removed by a perusal of the new matter dealing with the analysis of the social mind (sympathetic like-mindedness and impulsive social action, formal like-mindedness, tradition and conformity, rational like-mindedness, public opinion and social values), interesting as the analysis is.

Suggestions toward an Applied Science of Sociology. By E. P. PAYSON.
New York and London: G. P. Putnam's Sons, 1898. Pp. ix, 237.

Mr. Payson's essay is a plea for a 'physical' sociology. "It is submitted that, with no servility to materialist or churchman, the physical nature and activities of man's physical body may be studied, and the true progressive methods of dealing with these attributes, characteristics and facts of humanity be gradually attained." Criminal law, public education and public philanthropy must combine in prescribing a physical treatment of man in communities, with a view (1) of eliminating the evidently vicious from the environment of the normal citizen; (2) of placing the vicious under healthful repression; and (3) of providing, especially for the young, a healthful environment in respect of food, shelter and occupation.

L'Individualisation de la Peine: Etude de Criminalité Sociale. Par R. SALEILLES. Paris: Félix Alcan, 1898. Pp. 281.

This book is the first volume of a general library of social science which is now being issued under the editorship of the general secretary of the *Collège libre des Sciences sociales*. The book is a reproduction of the lectures delivered by M. Saleilles at the *Collège libre des Sciences sociales* and is quite free from all legal technicalities. On a great many fundamental points M. Saleilles is in accordance with the Italian school of criminologists. Where he differs from them is in matters of detail. He accepts the view of Prof. Ferri and others, that penal law exists primarily for purposes of social defence. But he does not consider that this definition of penal law is quite exhaustive. His conception of penal law is that it is a system of social defence in harmony with the idea of justice. In this way M. Saleilles considers that he gives greater completeness and accuracy to the definition of penal law. As long as law derives its sanction from public opinion it is evident that it must in the main be drawn up so as to harmonise with the idea of justice which prevails in the community where it is in operation. Unless penal law has the concurrence of the community behind it, it is practically a dead letter, and penal law will not be supported by the community unless it is in accordance with the idea of justice as it is conceived by the bulk of the population. It is probable that Italian criminologists would find no fault with M. Saleilles' extension of their definition of penal law, except perhaps to say that it was superfluous. M. Saleilles describes crime as an attack upon the established legal order of society, and the method of dealing with those who commit crime may take two forms. In the first place we may look solely at the nature of the crime which has been committed, and determine the amount of punishment by the character of the offence. If this is our attitude the question to be decided is the exact nature of the crime. When this point has been reached the next step to take is to award the precise amount of punishment attached to that particular offence. In all these arrangements the offender, the person who committed the offence, remains completely in the background. It is the character of the offence and not the character of the offender which occupies the attention of the penal law. In meting out punishment to the offender, it is what he has done not what he is which the law has in view; its object is the same as that of the man in the play, "to give one good kick back," irrespective of the result of that kick on the individual who receives it or on society at large. If the value of a system is to be judged by its results it must be admitted

that the operation of this retributive method is not very satisfactory. As M. Saleilles very truly points out, offenders subjected to retributive treatment are not deterred by it from repeating the offence. It does not cure them. On the contrary, it hardens them and makes them more dangerous to society than they were before. Further, there is no proof whatever that the retributive principle checks crime. It is asserted that it does. But no facts whatever are brought forward in proof of this assertion. The assertion is a mere hypothesis resting upon no solid foundation. It is also asserted that retributive punishment ensures respect for the law. But it is impossible to prove that it does so. It is a mere assumption. Hence the discredit into which the principle of retributive justice has fallen among almost all those who have watched it in actual operation. Retributive justice is a purely mechanical and mathematical process: it secures no reparation for the past and it accomplishes no result in the future. According to M. Saleilles the nature of punishment must be determined by its end. It must be adapted to the character and circumstances of the individual. It is only in this way that punishment can be made effective. Its object must be to prevent the individual, and through him the community as a whole, from repeating the offence. It is only by the individualisation of punishment that this end can be attained. But how is punishment to be individualised? According to M. Saleilles it can be individualised partly by legislative, partly by judicial, and partly by administrative methods. The object of individualisation is to adapt the punishment to the offender and not merely to the nature of the offence. The adaptation of punishment to the character of the offender must be on lines which will not bring this principle into collision with the idea of justice current in the community. In fact the practical application of an individualised system of punishment is the chief difficulty connected with it. The system is sound in theory but it has yet to be shown to what extent it can be applied in practice. I have no doubt that the individualisation of punishment is capable of practical application to a very considerable extent. M. Saleilles proposes several methods and some of them are more or less feasible, but we must wait for the appearance of his second volume on *Criminal Politics* to see how far his proposals can be carried into the sphere of law and administration. In the meantime, M. Saleilles' present work may be safely recommended as an admirable introduction to the philosophy of criminal law. He has made himself master of all the best that has been thought and said on the subject in recent years, and he has the valuable gift of lucid exposition.

L'Ame du Criminel. Par MAURICE DE FLEURY. Paris: Félix Alcan, 1898. Pp. 192.

The title of Dr. de Fleury's little volume hardly answers to its contents. More than one half of the book is devoted to an examination of the best means of dealing with the criminal population. Dr. de Fleury divides his work into three sections. The first treats of the brain and free will: the second of determinism and responsibility: the third of the repression and prevention of crime. An examination of the structure and functions of the brain leads the author to the conclusion that free will is an illusion. Human conduct is a product of heredity and environment. The treatment of the criminal population must be determined by this fact. The actual criminal code is based upon the idea of free will. But if the fundamental basis of the criminal code is false, it is impossible for the machinery of criminal law to deal effectively with the criminal. Strictly

speaking, the penal code should be recast and reconstituted in accordance with a different conception of the idea of justice. But Dr. de Fleury considers this fundamental change as impossible in existing circumstances. He thinks that the public mind is not prepared for it and that the reform of penal law must be made step by step. In this general statement he is no doubt correct. But when he proceeds to deal with the manner in which penal and penitentiary reform should be effected it is not so easy to agree with him. One of his proposals is that habitual criminals should be treated with greater severity. In a great many cases habitual criminals are people of unstable mental balance, feeble mentally and physically. These facts Dr. de Fleury repeatedly insists upon. Yet his proposals would have the effect of subjecting such persons to a regimen which would still further deteriorate them. In this condition they would be ultimately let loose upon society and would be more dangerous than ever. Penal reform cannot take this course. The true method of dealing with the habitual criminal or recidivist is to exclude him from society for a period which will cover the age at which criminal activity is at its height. In many instances this would be a long period. But during this period prison discipline should never be of such a severe character as to deteriorate him either in body or mind. It should be directed rather to improve him with a view to the fact that he will one day be a free citizen, for it is in the interests of society that he should not abuse his freedom when at last he gets it. In justice, however, to Dr. de Fleury, it must be mentioned that he has little faith in repression and intimidation whatever form they may take. With all modern students of the criminal population he considers that the true line of progress lies in removing the individual and social conditions which tend to produce crime. Crime springs from certain abnormal conditions in the individual and in his surroundings. Diminish the action of these conditions and you will at the same time diminish the amount of crime. Punishment does not affect these conditions: hence its failure to protect society against its criminal elements. Society can only be protected by individual and social amelioration. The struggle against crime is in reality a struggle against all those conditions in society which tend to degrade and deteriorate the individuals who compose it.

Ueber das Sollen und das Gute: eine begriffsanalytische Untersuchung.
Von FRED BON. Leipzig: Wilhelm Engelmann, 1898. Pp. iv., 188.

The scope of this book may be indicated in the words with which the author concludes his introduction: 'The road that I have taken is in my opinion the only one by which Ethics can be successfully rescued from the shifting ground of popular phraseology . . . and made into a separate science' (p. 18). If this claim is correct, the book is obviously of the first importance; and I propose therefore to examine the grounds by which Herr Bon attempts to justify it, although the greater part of his work consists of matter of which the bearing on this claim is only indirect.

Herr Bon expresses his grounds in the sentence immediately following that quoted above, 'Indeed,' he says, 'I venture to affirm, that hitherto no scientific Ethics has been possible and in the future too will not be possible, until we are clear about the question, *not what morality (das Sittliche) is, but what we will agree to call by that name*'. Herr Bon's contention is, in short, that the sole requisite for the establishment of a scientific Ethics is a definition of the words we are going to use, that is at the same time perfectly precise and perfectly arbitrary. He argues in

his introduction that the making of such definitions is the sole business of philosophy. 'Philosophy,' he says, 'can only do justice to her problem of the analysis of concepts by means of propositions which serve to explain the meanings of words, *i.e.*, in analytic judgments' (p. 15). And yet on the very preceding page, we have an account of the problem of philosophy which seems to be radically different from this; '... there is required,' says Herr Bon, 'a previous accurate analysis of the concept in question; *i.e.*, an exhibition of the experiences of earlier generations that are deposited in the concept and often partly forgotten, or at least unnoticed. And let us say again: This is exactly the method and problem by means of which philosophy is distinguished from the special sciences' (p. 14).

Now these two conceptions of the meaning of 'analysis of concepts,' as defining the problem of philosophy, seem to be not only inconsistent with one another, but also neither of them sufficient. On the second Herr Bon does not insist; indeed he does not seem to see how different it is from the first; and it may therefore be dismissed with the remark that what is 'deposited' in any given concept will, in many cases, be a false view of things that was taken by our ancestors, and not an 'experience' in the sense of something which truly represents the facts. This definition would therefore make it in many cases the business of philosophy to arrive at falsehoods which commended themselves to our ancestors. The other definition seems still more palpably absurd, since it would make philosophy consist in nothing but attaching a definite name to a definite idea, without any inquiry as to whether that idea represents a truth or a falsehood. Any falsehood, so Herr Bon's view implies, provided it be only precise enough, may be proclaimed for true by philosophy. Into this paradox he seems to have been driven by his very warm opposition to the view that it is the philosopher's business to assume a common meaning wherever a common name is used. But he does not seem to see that the real objection to this 'inductive' method is not that it uses one word for several different things, or, as Herr Bon would say, uses 'confused concepts' (the above quotations show that he does not observe the distinction between words and concepts), but that it fails to perceive that the things are different. Hence it might be not unfair to say that a large part of the problem of philosophy was 'sharply to contrast the different meanings' of one word, as Herr Bon recognises for a moment (p. 33); if we add to this that it must then go on to discover the synthetic relations between these different things meant. But it is then also plain that it is a proper question for philosophy 'what morality is' and not only 'what we will agree to call by that name,' the answer to the first question being the discovery of what different notions there are that can be called by that name, and if those notions are complex, whether the relations between their elements do truly hold.

Herr Bon's practice is better than his theory, but it is perhaps owing to his theory that he has not taken sufficient care to exhaust the notions which are involved in the ordinary loose talk about morality. He has, in fact, omitted to notice the only notion which really serves to distinguish Ethics from any other study. What this is *called* matters no more than Herr Bon thinks it matters. What is important is that there is a perfectly distinct meaning, of which he says not a word, that I should prefer to denote by the name 'good,' for the reason that that word, and the word 'ought,' seemed generally to be used with reference to it, though, no doubt, with a confused reference. Herr Bon's theory, if taken strictly, would make this criticism impertinent; since if the judgment, in which he declares 'You ought to do what is commanded you' (p. 24), were

really, as he says, an analytical judgment it would be simply equivalent to 'You are commanded what you are commanded'. This judgment, no doubt, is unexceptionable; but Herr Bon would hardly be satisfied that it expressed his meaning. If, then, as seems to be the case, his theory must be rejected, and the criticism is understood as applying to his practice, it amounts to saying that by 'You ought' something quite different from 'You are commanded' may be meant, and that this is something which Herr Bon nowhere mentions elsewhere in his book. It is in fact the notion which gives a meaning to the mention of 'true' and 'false' 'Ideals,' which Herr Bon afterwards rejects scornfully as phrases without meaning (p. 135). In short, there is a notion which gives a meaning to the questions, 'Is it true that this ought to be?' 'Is it true that this is good?' quite independent of what anybody thinks about the matter, or of what he desires or is commanded. Even if Herr Bon thinks there is no such notion, his theory, being false, will not entitle him to reject without discussion the possibility that there is.

G. E. MOORE.

Criminalpsychologie. Von Dr. HANNS GROSS. Graz: Leuschner & Lubensky, 1898. Pp. 722.

Dr. Gross's book is intended for judges and magistrates who have to try criminal cases. He considers it most essential in the interests of justice that public officials entrusted with the lives and liberties of so many people should possess an accurate knowledge of the operations of the human mind. In the first place they should know how their own minds work, then they must know the minds of the witnesses and finally the minds of the persons for trial. A knowledge of the general laws of mind must be supplemented by a special knowledge of the mental characteristics and peculiarities of the various classes who come before the criminal courts either as prisoners or witnesses. Dr. Gross attempts to some extent to supply this information. He deals with the mental characteristics of women and children and the value which is to be attached to their evidence as witnesses. He shows the effect of old age on the mental faculties and the allowances which must be made for it by judges and magistrates. The effects of illiteracy, ignorance, superstition, custom, mental hallucinations and illusions are also dealt with. He even wishes the judge to draw conclusions from the dress worn by the prisoner or the witness. Many of his remarks are interesting and instructive, although at times somewhat fanciful. On the whole the book is a valuable compendium of criminal psychology and is worth reading by those who have to deal with prisoners and witnesses in courts of justice.

La Psicologia dell' Immaginazione nella storia della filosofia. Per LUIGI AMBROSI. Roma: Società editrice Dante Alighieri, 1898. Pp. xxxiv., 562.

Dr. Ambrosi has investigated rather more than fifty psychological doctrines, and has summarised the theories bearing on his subject with great clearness, endeavouring, so far as was possible, to maintain the chronological order and to show the development of one from another. He has thus prepared the way for a volume soon to appear, entitled *In the World of Phantasy: Its Phenomena, Its Laws, Its Mysteries*, which he characterises as "a voyage of discovery". Meanwhile he has given us a historical and critical account of the psychology of imagination from Democritus down to Frohschammer.

Beginning with a short chapter on primitive mythological conceptions

of imagination, Dr. Ambrosi next notices the Atomists, Plato and Aristotle. He points out that the Stoics, while regarding imagination as a synthetic activity, limited its functions to the reproduction of the data of sense, and that Plotinus first recognised it to be an intellectual function, and creative. After St. Augustine, St. Thomas and Dante, Descartes marks a new era by his psycho-physical view of imagination, and Spinoza takes a step backwards in regarding it as merely passive. Malebranche attempts to confine it within narrow limits and to regard it mainly as a source of error. Gassendi has the merit of breaking down the barriers between different faculties. There is not much to be said about Locke and Leibnitz, but with Wolff imagination takes its place as a separate branch of psychology, which no psychologist can venture to neglect. Wolff was the first who ventured "to confine within the limits of exact laws a faculty apparently so capricious" (p. 540).

So far the chronological order is maintained; but here a classification according to nationality becomes necessary, and Dr. Ambrosi turns first to the Italian philosophers. Vico laid the foundations of a psychology of collective imagination; Muratori, Soave and Galluppi regarded the subject from an ethical and practical standpoint; De Grazia's view was psychological, Rosinini's physiological, Gioberti's æsthetical. In a similar manner the author deals with the psychologists and philosophers of Scotland, England, France and Germany, ending with Wundt, Schopenhauer, Hartmann, and lastly, Frohschammer, of whom he writes: "While others have given us the metaphysic of the idea, of the will, of feeling, of consciousness, of the unconscious, he has attempted a metaphysic of imagination. The attempt has had a happy issue" (p. 559). This does not mean that Frohschammer's theory of an all-embracing world-phantasy, which is objective in its lower, and subjective in its higher forms, is to be accepted. Dr. Ambrosi indicates its weak points and remarks that no monistic system (dynamic monism is the phrase he prefers) can be founded on any one function of the mind. But he regards imagination as "a function which, perhaps more than any other, embraces the whole mental life" (p. 123). What he commends in Frohschammer's doctrine is the great importance attached by him to this "modest faculty mediating between the senses and the reason," which Schelling's æsthetic transformed into a true creative power (p. 364), and also the fact that his philosophy is based on a principle of activity. Throughout the book Dr. Ambrosi makes prominent his conviction that the human mind must be regarded as essentially personal and active, and vindicates the claims of imagination to consideration. Hence he sometimes appears to judge the authors whom he criticises not so much by the accuracy of their conclusions as by the place which they assign to imagination, or, in other words, the sense in which they use the word. *Die Phantasie als Grundprincip des Weltprozesses* was published in 1887. It is, possibly, because no writer since then has included so much under the terms "phantasy" or "imagination" that Dr. Ambrosi makes no reference to any more recent work. Having treated of imagination in mythology, psychology and metaphysics, he concludes with imagination in poetry, and gives an interesting review of the long poem *L'Imagination*, written by Jacques Delille amid the horrors of the French Revolution.

E. F. STEVENSON.

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VII.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. viii, No. 1. **J. G. Schurman.** 'Kant's Theory of the *a priori* Forms of Sense.' [If mathematical synthesis depends on perception, like all other synthesis, and yet is independent of empirical perception, its basis must be some pure or *a priori* perception. Kant asserts (not proves) that space and time constitute this basis. They are not innate ideas, but the immanent forms or functions of the faculty of perception. Geometry, the science of space, is thus true of things, not merely of ideas. The explanation of mathematics leads to phenomenism. The *Aesthetic* parallels time and space; but there is no pure science of time. Kant's two time-axioms are analytic only. His two proofs (that the time-consciousness is prior to all perception of time-relations, and that it is indispensable to all experience) are inadequate. His subjectivistic conclusions fall therewith; but fall also on the positive ground that the real universe cannot be a universe of changeless existence.] **D. H. Blanchard.** 'Some Deterministic Implications of the Psychology of Attention.' [(1) Psychology of attention: Ribot, Stout. Attention "is the mental attitude of receptivity. Fixation of attention is the process of motor or vasomotor adjustment" accompanying receptivity, and "the feeling of effort is the reverberation in consciousness of this adjustment". Will "finds no occasion for exercise except through conflict". (2) Criticism of James' "action in the line of greater resistance" and of Seth's indeterminism. Will "is not a faculty, but as much a psychic state as a sensation or an emotion". Attention, in its process of "interest, conflict, motor adjustment, selection through preferential interest, apperception or choice, and action" "explains all that there is to explain."] **A. H. Lloyd.** 'Time as a Datum of History.' [Time is not formal and self-existent; for that would mean the isolation of events from each other, the sanction of suddenness in things, the positive recognition of a controlling agency without, and the temporal character of the real and the spiritual. Time is "the factor in experience that, taken by itself, expresses at once the necessity (the past) and the opportunity (the future) that a world of related differences naturally affords". "Those who live do not live in time; they live time itself, they use time."] Reviews of Books. Summaries of Articles. Notices of New Books. Notes. **M. F. Washburn.** 'Recent Discussions of Imitation.' [Baldwin, Tarde.] **I. M. Bentley.** 'Current Discussions of Psychology and Education.' [Muensterberg, Royce, Titchener.] **J. E. Creighton.** 'Philosophy at the Scientific Associations.' [Crookes, Japp, Pearson, Spencer, Weldon.]

PSYCHOLOGICAL REVIEW. Vol. vi, No. 1. **H. Muensterberg.** 'Psychology and History.' [If psychology and history remain yoked together, then either history will be resolved into psychological analysis and sociological law, or the unity of personality will overcome confidence in science. In the former case, history is ruined; in the latter, psychology. But the two can be separated, though not as idiographic (history) and

nomothetic (physics and psychology). Not in this way, since (1) all natural sciences set forth judgments of the existence of objects; (2) every assertion of a special fact demands reference to general facts; and (3) the manifold of reality is not infinite, and abstracting conceptions are not inadequate to the richness of the single fact. We start rather from the view that all science connects, while it is art that isolates. Then, classifying our material from an epistemological standpoint, we find that physics deals with overindividual objects, psychology with individual; the normative sciences deal with overindividual will-acts, the historical sciences with individual. "It is the unique task of history as a science to work out and make complete the teleological system of individual will-relations, thus to bring out the connexions between our acts and all the acts which we must acknowledge as somehow teleologically influencing our own." The method of psychology and history is thus the same: the material is different.] **J. R. Angell** and **H. B. Thompson**. 'A Study of the Relations between Certain Organic Processes and Consciousness.' [On the relation of circulation and respiration to various affective and intellective processes. Falls into two parts: a historical survey, and new work and interpretation. The processes dealt with are "cases of readjustment of an organism to its environment." Attention is always occupied with the point in consciousness at which the readjustment is taking place. If the process of readjustment goes smoothly and evenly, we have a steady strain of attention," and therewith a rhythmic regularity of circulation and respiration. "But often the readjustment is more difficult. The attentive equilibrium is upset, and there are violent shifts back and forth as it attempts to recover itself." Such "breaks, shocks, and malco-ordinations of attention are accompanied by sudden, spasmodic changes and irregularities in the bodily processes". There is no nearer correlation demonstrable.] **C. L. Franklin**. 'Mueller's Theory of the Light Sense.' [Criticism of points in Mueller's theory and plea for the greater reasonableness of the author's. Not convincing.] Shorter contributions and reports. **H. M. Stanley**. 'Professor Groos and Theories of Play.' [Instinct as such needs no practice. Much of what Groos calls play is really work. Play may have started with adult practice; or, perhaps, with teasing. Pure work and play are rare. Groos makes too much of shamming; his classification is incomplete. Play is "a generic general phase of emotionalism".] **F. Kennedy**. 'The Struggle for a Spiritual Content of Life.' [Report of Eucken's "Kampf um einen geistigen Lebensinhalt".] **I. B.** 'Experience under the Influence of Ether.' Psychological Literature. New Books. Notes.

AMERICAN JOURNAL OF PSYCHOLOGY. Vol. x, No. 2. **F. E. Bolton**. 'Hydropsychoses.' [Investigates the influence that Water has exerted in shaping and moulding man's psychical organism. Pelagic origin of life: mental 'reverberations,' in primitive conceptions of life, philosophies, religious observances, literature, etc. Attitude of man to water at the present day: questionnaire returns. "There is unquestioned evidence of numerous rudimentary psychic traits and many others which, though not capable of rigorous demonstration, give strong evidence of their origin." The evidence turns out, however, to consist entirely of 'suggestions'. President Hall's psychoses are as inconclusive in proof as they are difficult of disproof.] **F. W. Colegrove**. 'Individual Memories.' [Questionnaire returns. Earliest memories; false memories; aids to memory, etc. Unpleasant memories play a larger part in women's mental life than in man's.] **L. W. Kline**. 'Methods in Animal Psychology.' [Interpretation is secondary; methods are wanted. There are two: the direct or natural, observation of free life; and the indirect or experi-

mental, observation under conditions which ask a question and favour the obtaining of an answer. Illustrations from vorticella, wasps, chicks and rats.] **E. C. Sanford.** 'Minor Studies from the Psychological Laboratory of Clark University.' xii. **G. M. Whipple.** 'On nearly Simultaneous Clicks and Flashes.' [Flash-click recognition takes less time than click-flash, for series of stimulus pairs as well as for one pair. Serial repetition reduces the time of recognition. The click is retarded, by the greater attention-claiming power of the flash.] xiii. **F. W. Colegrove.** 'The Time required for Recognition.' [Central process in recognition of pictures requires 0.2 sec. or less. Expectation decides the relative duration of judgments of recognition and of non-recognition. Interest of pictures shortens recognition time, as does increasing familiarity.] xiv. **F. W. Colegrove.** 'Notes on Mental Standards of Length.' [We have separate mental standards of the inches and half inches; finer estimation is made after these rough measurements are completed.] **E. Flood.** 'Notes on the Castration of Idiot Children.' [Bibliography and Brief Abstracts.] **A. F. Chamberlain.** 'On the Words for *Fear* in Certain Languages: a Study in Linguistic Psychology.' Book Notes. Notes and News. **W. S. Monroe.** 'A Study of Taste Dreams.' [Taste test gives 7 per cent. gustatory dreams to 48 per cent. visual; visual test, 3 per cent. gustatory to 60 per cent. visual.] Books received.

REVUE PHILOSOPHIQUE. April, 1899. **L. Dauriac.** 'La Philosophie de R. Wagner' [(Founded on *Richard Wagner, poète et penseur*, by H. Lichtenberger). The philosophy of Wagner is a religion rather than a philosophy. It is concerned solely with human life, and may be summed up in the words: "to live is to renounce". The good will is the will to renounce. (Illustrated in detail from the *Niebelungen Ring*). But renunciation is not an end but a method. By destroying the egoistic feelings we reach to the higher life, the life in all and for all. The poet looks to *human renunciation* for human redemption. *Parsifal* is a religious work, composed to the glory of Jesus. He came not to bring resurrection and eternal life, but to teach men they may win the redemption of themselves and of others by means of individual renunciation. This negation of the will is not suicidal, however. 'The life of the saint is not an anticipation of death, but a higher state of life which can only be attained by the exercise of the highest energy of the will.] **J.-J. van Biervliet.** 'L'homme droit et l'homme gauche.' [The asymmetry of function. After dealing with the effect of asymmetry on locomotion, etc., the writer passes on to discuss the question of its origin.] **H. Bois.** 'La Dissolution de la Foi' (*fin*). [Writer denies that historical criticism is capable of destroying the basis on which Christianity rests. This basis is twofold, consisting of (1) certain material facts; (2) interpretation of these facts. The religious interpretation lies beyond the reach of historical criticism and this criticism has not, it is averred, succeeded in proving that the facts on which Christianity is based admit of a natural explanation. The moral miracle remains.] **Revue Critique.** **F. Pillon.** 'La Psychologie Analytique d'après Stout.' [In a twelve-paged review we get no allusion to anything beyond the first fifteen pages of the book under review. Mr. Stout's account of the nature of psychology, i.e., as a positive but non-physical science, is contrasted with that of Comte, for whom physical = positive. With regard to method, while Comte denied the distinction between internal and external observation, Mr. Stout quotes three psychological methods: (1) introspection; (2) retrospection; (3) observation of certain outward signs. Reviewer quotes from M. Bonnet to show that (2) may be regarded as a species of (1). In a short concluding paragraph it is suggested that the author

would have done well to have avoided any allusion to the distinction between matter and spirit, which is a question for metaphysics. Psychology, like physics, is concerned with phenomena only and the order in which they occur.] *Analyses et comptes rendus*. May, 1899. **F. Le Dantec.** 'La Théorie Biochimique de l'Hérité (II).' [An attempt (too long to summarise) to prove in detail that the bio-chemical theory offers explanations of vital phenomena *at least as* complete as those offered by the vitalistic theory, while it enables us to predict phenomena of which the latter gives no hint.] **Goblot.** 'Fonction et Finalité (I).' [Physiology, as a science, stands or falls with the conception of function, and function implies finality, subservience to ends.' Only that property of living tissue is function which serves the end of its organisation. Like causality, finality is only immediately known to us in consciousness. To the primitive man all non-egos are selves; experience gradually teaches him to distinguish between persons, animals, plants and things. In the latter there is effort without intention, they are blind causes while man foresees and plans. Then comes a period of theological finalism; the intelligent will originally regarded as immanent in things is now conceived as lying outside and beyond them. Biological mechanism belongs to this period; living beings are artificial constructions presupposing an artificer. The final and scientific conception of causality is that of necessity, law. Uniformity of nature is the foundation of the Baconian induction. But if we are to understand vital phenomena we must view them not only under the form of causality but also of finality. The existence of science is the sole proof of the truth of the postulate on which it rests. The existence of physiology witnesses to the truth of the teleological order. But the teleological principle is particular only, not universal. Hence teleological induction is more complex, more difficult and perhaps more disputable than ordinary induction. It is a synthesis not an analysis.] **J. Philippe.** 'La Conscience dans l'anesthésie chirurgicale.' [The evidence alike of surgeons and patients goes to prove that under the influence of anaesthetics the patient does not lose consciousness and often suffers pain, but on waking he has no recollection of his experiences.] *Notes et discussions. Analyses et comptes rendus*. June, 1899. **L. Winiarski.** 'L'Équilibre Esthétique.' [If we are to have a science of æsthetics we must generalise the immediate results of experience and reduce them to their common substratum. The common substratum of æsthetic phenomena is nervous movement. We must also posit an 'æsthetic man' who, by an abstraction, is considered as solicited solely by the idea of obtaining the maximum of æsthetic pleasure. Man may be considered as a material system endowed with biological energy. This energy constantly undergoes transformations until a position of equilibrium is established and all his wants are equally satisfied.] **Marro.** 'Le Rôle Social de la Puberté.' [A comparative study of marriage customs among different peoples, tending to show that sexual selection plays an important part in contributing to the preservation and cultivation of such qualities as promote the evolution of societies.] **Goblot.** 'Fonction et Finalité' (conclusion). [Constant coincidence is an indication of the presence of causality; complex fitness of the presence of finality. Every end may be regarded as an advantage of some kind for something. In order that an end may be attained certain conditions must be fulfilled. But fitness affords a presumption only, not a proof of finality. Proof can be given by the 'method of the initial term'. Unlike the causal series, the final series has a beginning and an end. The importance of the initial term has been strangely overlooked. It is a need of the advantage afforded by

the end. This need may not be *known*, it may, perhaps, not even be *felt*. But when it can be shown that such a need determines a series of effects tending to realise the advantage then we have proof of finality.] **G. Dumas.** *Revue critique* (Névroses et Idées fixes d'après M. Raymond et Pierre Janet). *Analyses et comptes rendus. Revues des Périodiques Etrangers* (MIND).

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Bd. xix, Heft 4. **K. B. R. Aars.** 'Ueber die Beziehung zwischen a priorischem Causalgesetz und der Thatsache der Reizhöhe.' [The validity and necessity of the causal law merely constitute a particular case of the rule of mental maxima. In other words, they depend upon the fact that human certainty readily reaches its maximum, upon the existence of the terminal stimulus.] **G. J. Schoute.** 'Wahrnehmungen mit einem einzelnen Zapfen der Netzhaut.' [It is possible to discriminate at least eight degrees of magnitude in images thrown upon a single cone. The criterion of size is amount of light, *i.e.*, product of surface into intensity.] **O. Polimanti.** 'Ueber die sogenannte Flimmerphotometrie.' [Flicker values do not agree with twilight values (so Schenck), but rather with peripheral brightnesses (von Kries). Confirmation of this from two dichromatic subjects. Observations on the frequency of oscillation necessary to produce continuity of sensation.] *Besprechung.* **A. Hoefler.** 'H. Gross. *Criminalpsychologie.*' *Litteraturbericht.* Heft 5 und 6. **E. B. Titchener.** 'Zur Kritik der Wundtschen Gefühlslehre.' [Wundt's classification attempts to reconcile logical arrangement with introspection. His account of the origin of feeling is incomplete. Introspective evidence for the pleasure-pain theory.] *Litteraturbericht. Bibliographie der psychophysiologischen Litteratur des Jahres 1897.* [Two thousand four hundred and seventy eight titles: the *Psychological Index* and the *Année psychologique* had two thousand four hundred and sixty-five.] Bd. xx, Heft 1. **D. Hansemann.** 'Ueber das Gehirn von Hermann v. Helmholtz.' [The brain showed great richness of convolution. The frontal lobes, the precuneus, and the gyrus angularis call for special mention. Helmholtz had a slight hydrocephaly in youth. This is very likely significant (so Perls and Edinger), the increased brain-pressure acting as stimulus to brain growth.] **M. Meyer.** 'Ueber Beurtheilung zusammen gesetzter Klaenje.' [Terminological: 'analysable' clangs; 'note' for 'tone' in parallel octave, etc., singing; 'attention'. Critique of Stumpf's laws that the lowest tone of a resting clang carries the pitch of the whole, and that in successive compound clangs the part that moves in the largest steps carries the movement. Rejection of Lipps' definitions of fusion. Attention cannot intensify; whether addition of new tones means increased intensity cannot at present be decided.] *Litteraturbericht.* Bd. xx, Heft 2 und 3. **W. von Zehender.** 'Ueber geometrisch-optische Täuschung.' [Revives Volkmann's discovery that retinal verticals apparently parallel really diverge upwards. Illusions are matters of apprehension, not of sense-organ; but Lipps' theory is inadequate. Volkmann's principle explains the Poggendorff figure. Distinction of perisopic (discursive) and episopic (concentrated) vision: variations in the Poggendorff effect with varied direction of the lines of regard. Explanation of angle illusions (Hering, Zoellner) by an extension of Volkmann's principle. Quantitative experiments.] **A. Samojloff.** 'Zur Kenntniss der nachlaufenden Bilder.' [For von Kries, against Hess: shows that the recurrent image is complementary in colour, and lacking at the spot of clearest vision. Describes a simple but accurate apparatus.] **M. von Frey und F. Kiesow.** 'Ueber die Function der Tast-

koerperchen.' [An excellent paper, whose chief object is to determine the importance for pressure sensation of the magnitude of the stimulus surface. When the effect of velocity of deformation is ruled out, the optimal surface for a single end-organ is about 0·4 sq. mm. This fact, as well as the phenomena following from increase and decrease of surface, can be resumed in the law that for the excitation of a touch corpuscle a certain fall of pressure (expressed by dp/dr , where r is the distance of the given point above the cutaneous surface, and p the pressure at the same point) is necessary at the place of stimulation. The sensation is identical, whether the pressure be push or pull; in either case the fall of pressure is the adequate stimulus of the organ. Its exact measure is impossible; calibration of aesthesiometers, etc., can, however, be suitably carried out in terms of an empirical tension unit, 1 gr. mm.] **G. Heymans.** 'Zur Psychologie der Komik.' [Lipp's general formula is that the insignificant has a large measure of psychical force put at its disposal; the comic element is present when an expected significant is replaced by an insignificant, or when something seems significant, but turns out on examination to be insignificant. Heymans accepts the theory; but adds the cases of discovery that an attractive novelty is entirely without interest, of the interruption of a significant by a disparate insignificant, of the sudden solution of an exciting riddle, and of momentary exaltation of a depressed self-estimation.] *Litteraturbericht.*

PHILOSOPHISCHE STUDIEN. Bd. xiv., Heft 4. **E. Mosch.** 'Zur Methode der richtigen und falschen Faelle im Gebiete der Schallempfindungen.' [An investigation of sound intensities by the fall-phonometer, the primary object of which is to better the mathematics of the method of right and wrong cases in the light of the recent work of Bruns, Fechner and Lipp. The instrument was improved, and the procedure without knowledge secured by the use of four in place of two stimuli. Result: the generalised law of distribution does more justice to the psychological facts than the simple Gauss law. The measure of uncertainty, U , however, has nothing whatever to do with the S. D. or with Weber's law. Whether the x -values (limits of the different judgments) can do service in this regard remains to be proved.] **R. Seyfert.** 'Ueber die Auffassung einfacher Raumformen.' [Experiments with triangles. Most accurate apprehension is given with presentation of the figure to the eye, and tracing of contour by eye-movement. Next in rank stands eye-movement alone, without retinal image. Much less accurate, and requiring much more practice, is judgment with constant fixation. Simultaneous movements of hand and arm are usually prejudicial, though with a high degree of practice the reverse may obtain. Apprehension by means of such concomitant movements alone is practicable but inaccurate.] **F. Kiesow.** 'Zur Psychophysiologie der Mundhöhlung.' [The painless region of the cheek is that bounded by the zygomaticus major, the triangularis, and the risorius Santorini (region of the third branch of the trigeminus). Sensitivity to pressure is normal (mechanical and electrical stimulation); as is the thermal sensitivity (heat and cold). Comparative determinations are given from other portions of the buccal mucous membrane.] **F. Kiesow.** 'Ein einfacher Apparat zur Bestimmung der Empfindlichkeit von Temperaturpunkten.' **F. Kiesow.** 'Schmeckversuche an einzelnen Papillen.' [Experiments on thirty-nine fungiform papillæ. Only four refused to react to any of the four stimuli, salt, sugar, quinine, hydrochloric acid. For the rest, great functional variations were observed.] **E. W. Weyer.** 'Die Zeitschwellen gleichartiger und disperater Sinneseindrücke,' I. [Historical: Exner, Hamlin, Drew (liminal time-interval between impressions); Wundt, von Tschisch (time-

displacement by attention; complication experiments). The present inquiry deals (1) with the time limina of the various sense-departments, and (2) with the liminal time relations of successive disparate stimuli. Special regard is had in the latter case to attention. Description of apparatus and methods.]

VIERTELJAHRSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Jahrg. xxiii, Heft 2. **Oswald Külpe.** 'Ueber den associativen Faktor des aethetischen Eindrucks.' [The associated presentations must have immediate interest which can make the mere contemplation of them a source of pleasure. They must also combine with the formal factor in a single harmonious whole.] **Eugen Posch.** 'Ausgangspunkte zu einer Theorie der Zeitvorstellung.' Zweiter Artikel. [The futurity of mere thoughts and the speech forms in which futurity finds expression. The nature of the Present; is it a portion of time? Simultaneity.] **Hermann Schwarz.** 'Die empiristische Willenspsychologie und das Gesetz der relativen Glücksförderung.' [Maintains a nativistic theory of Conation against all attempts to reduce it to a complex of presentations or of feelings and presentations.] Besprechungen, etc.

ARCHIV FÜR SYSTEMATISCHE PHILOSOPHIE. Band v., Heft 2. **B. Tschitscherin.** 'Raum und Zeit.' [Time is an attribute of the absolute Subject-Object. Space is an *a priori* form with a counterpart in empirical reality, to be discussed in a future article.] **Hans Kleinpeter.** 'Ueber Ernst Mach's und Heinrich Hertz' principielle Auffassung der Physik.' [Sharp distinction between conceptual construction and matter of fact. We have free control over concepts as such because they are the work of our own mind.] **Paul Natorp.** 'Zur Streitfrage zwischen Empirismus und Kritizismus.' [Disputes position maintained in Kleinpeter's article.] **Jakob Hacks.** 'Die Prinzipien der Mechanik von Hertz und das Kausalgesetz.' [Life does not conform to the mechanical principles which hold good of inorganic matter.] **Max Wentscher.** 'Zur Theorie des Gewissens.' [Distinguishes three meanings of *Conscience*: (1) feeling-reaction on comparison of action with idea of duty; (2) ethical concepts current in a society; (3) critical reflexion of the individual on ethical questions. (2) cannot explain (1) and (3), it can only supply their special content at a given time.]

PHILOSOPHISCHES JAHRBUCH. Bd. xi., Heft 3. **Švorčík.** 'Uebersichtliche Darstellung und Prüfung der philosophischen Beweise für die Geistigkeit und die Unsterblichkeit der menschlichen Seele.' [In this, the first of two papers, the writer first gives the proofs of the immortality of the soul: those that proceed from the immateriality of mind, and of the will, and from the phenomena of self-knowledge; also those of Leibniz and Beneke. He then examines the proofs as to the principles on which they are based, attacking those of Descartes, Leibniz and Beneke.] **Seitz.** 'Die Freiheitslehre der lutherischen Kirche in ihrer Beziehung zum Leibniz-Wolff'schen Determinismus.' [This article expounds the doctrine of free-will, firstly as set forth by Luther himself, and then as modified by Melanchthon in the teaching of the Lutheran Church; the influence of these upon the determinism of Leibniz and of Wolff; and the antagonism of the Pietists to the latter system, which they considered as irreligious.] **Dentler.** 'Der Noës nach Anaxagoras.' [In conclusion, the writer examines the action of the Noës on the world, according to Anaxagoras. It seems certain that he does not suppose it only gave the first movement and impulsion to the universe, but also influenced its orderly development—and probably, though not certainly, that it still continues its direct action after the first movement given.]

RIVISTA ITALIANA DI FILOSOFIA. May-June. **A. Andres.** 'La Interpretazione Meccanica della Vita.' [Despite the admission of a special vital force by Aristotle, Leibnitz, Van Helmont, Barthezy, Cuvier, Milne-Edwards, Virchow and others it is contended that vital manifestations can be explained by the usual chemical, physical and mechanical laws, and thus the distinction between organic and inorganic is not one of kind but of degree, consisting in the greater complexity of composition of the former. The specially organic properties of movement and conscious sensation, in the higher animals, are similarly explained—the former being a phenomenon of electric magnetic attraction and repulsion, while the latter is boldly faced by an hypothesis, namely, that every atom of matter possesses consciousness in an infinitely small degree, in proportion, to the infinitely small degree of its volume and weight. Owing to chemical combination of atoms, special properties become accentuated, whence are evolved, step by step, the various forms of organism.] **G. Vidari.** 'Le Scuole Secondarie e la Società Presente.' [A discussion of the respective merits and positions of a liberal and professional education, with special reference to Italian Universities.] **L. F. Ardy.** 'Dante e la Moderna Filosofia Sociale' [Continues the exposition of Dante's views upon modern economic questions. The relation of capital and labour finds place in the condemnation of usury. Under the general discussion of Cosmopolitanism against Patriotism, it is interesting to note that Dante, like Leibnitz, Kant and Victor Hugo, believed in a *pax universalis*, towards the attainment of which Art and Poetry are potent instruments.] **E. Passamonti.** 'Giovanni Battista Benedetti.' Bollettino, etc. July-August. **A. Velardita.** 'Evoluzione e Dogma.' [A criticism of the attempt of Rev. S. A. Zahm to reconcile Roman Catholic Theology and Evolution. The writer of the article shows that the ideas of a creation and of evolution are irreconcilable.] **A. Bartolomei.** 'I Principi Fondamentali dell' Etica di Roberto Ardigo e le Dottrine della Filosofia Scientifica.' [This, the first of a series of articles, discusses the nature of Ethics from the Positivist standpoint, and especially, in the present instalment, the relation of Ethics to Sociology and the Theory of Rights. Natural right is the theoretical expression of a social consciousness or social ideal, which is critical and progressive, sometimes even revolutionary, though, in certain instances, tending towards conservatism.] Nota.—**F. Papafava.** 'Origine delle Professioni secondo lo Spencer.' Bibliografia. Bollettino, etc.

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THE ARISTOTELIAN SOCIETY, 22 ALBEMARLE, STREET, LONDON.

REPORT OF THE EXECUTIVE COMMITTEE FOR THE TWENTIETH SESSION.

Presented at the Last Meeting of the Session on 12th June, 1899.

DURING the past Session seventeen original papers, including three contributed to a Symposium, have been read and discussed. In accordance with the suggestion of the Committee in the last report, the paper to be read has been sent in proof to each member with the notice of meeting, and this practice has secured a greatly enhanced interest and value in the discussion. Ten of the papers have been accepted for publication in *Mind*.

In accordance with a resolution passed at the last Annual Meeting, six of the Meetings of this Session have been held in the afternoon. The attendance at these meetings has been about the average of that at the evening meetings, but they have had the advantage of securing papers from members who find the evening hour difficult or impossible.

A suggestion was put forward towards the close of last Session that the Society should inaugurate an Annual Dinner. This suggestion was carried out on 4th July, 1898, when thirty-seven members and friends responded to the invitation and met to take part in the first Dinner at the Holborn Restaurant under the presidency of Prof. Alexander. A second Annual Dinner was held during the Session, on 12th May last; there were present forty-one members and

friends; the President, Prof. Ritchie, was in the Chair, and Sir Frederick Pollock, Prof. H. Sidgwick and Mr. Leslie Stephen were guests of the Society.

The Committee think that the congratulations of the Society are due to our past President, Mr. Shadworth H. Hodgson, on the publication of his *Metaphysic of Experience*, a work which covers the whole ground of Philosophy proper. This work is moreover in an especial manner associated with our Society as it represents his continuous labour since nineteen years ago he was elected President, being the first to hold that office. Two of the papers of this Session have been devoted to critical study of this book, and there can be no doubt that it must attract the attention of students of philosophy for a long time to come.

FINANCIAL STATEMENT.

TWENTIETH SESSION, ENDING 12TH JUNE, 1899.

RECEIPTS.		EXPENDITURE.	
Subscriptions of 75 Members	£78 15 0	General Expenses—	£15 15 0
Less 1 paid in advance, 11 still owing	12 12 0	Rent of Rooms	2 5 0
	<hr/>	Printing Society Notices	.
Arrears of last Session	£7 7 0	Printing Reports, etc., of Nineteenth	.
Less still owing	2 2 0	Session	3 19 0
	<hr/>	Gratuities	1 3 6
Publication Fund—	5 5 0	Typewriting	0 14 0
Brought forward	£82 18 5	Postage, etc.	3 10 8
Interest on Deposit Account, 1898	2 1 4		<hr/>
	<hr/>	Subscription to <i>Mind</i> , 1899	£27 7 2
Balance carried forward to next Session	10 14 9	Printing Extra Sheet of <i>Mind</i> , July, 1898	37 10 0
	<hr/>	Post Office Savings Bank—	.
		Publication Fund	84 19 9
		Balance brought forward from last Session	12 18 10
	<hr/>		<hr/>
			£167 2 6

Examined and found correct.

(Signed) E. C. BENECKE.
(Signed) F. KAIBEL.

(Signed) H. WILDON CARR,
Hon. Treasurer.

PAPERS READ BEFORE THE ARISTOTELIAN SOCIETY
DURING THE TWENTIETH SESSION.

1898.

Nov. 4.—Inaugural address, "Philosophy and the Study of Philosophers". Prof. D. G. Ritchie, President.

Nov. 21.—"Character as Subjective Variation." Mrs. Sophie Bryant, D.Sc.

Dec. 5.—"P. Malapert's *Les Elements du Caractère et leurs Lois du Combinaison.*" Mr. A. F. Shand.

Dec. 19.—"Berkeley." Dr. R. J. Ryle.

1899.

Jan. 16.—"Are Psychical States Causally Connected?" Mr. E. C. Benecke, Mr. G. E. Moore, Mr. G. Dawes Hicks.

Jan. 30.—"The Nature of Judgment." Mr. G. E. Moore.

Feb. 13.—"Social Automatism and the Imitation Theory." Mr. Bernard Bosanquet.

Feb. 27.—"Lotze's *Theory of Concept and Judgment.*" Miss E. E. Constance Jones.

March 13.—"Can there be a Sum of Pleasures?" Rev. Hastings Rashdall.

March 27.—"The Relation between the Philosophy of Spinoza and that of Leibniz." Dr. Robert Latta.

April 10.—"Mr. Shadworth Hodgson's *Metaphysic of Experience.*" Mr. H. W. Carr.

April 24.—"The Relation of Body and Mind." Mr. G. F. Stout.

May 8.—"Dreams: some Observations and Inferences." Prof. J. H. Muirhead.

May 29.—"The Development of Ethical Philosophy." Dr. James Lindsay.

June 12.—"Psychological Philosophies." Mr. Shadworth H. Hodgson.

LIST OF OFFICERS AND MEMBERS FOR
THE TWENTY-FIRST SESSION, 1899-1900.

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